

# Xavier Grand

## Ph.D. in Integrative Biology & MS. in Bioinformatics

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15.10.1985, born in Lunel, France.



### WORK EXPERIENCE

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- 4.2020 - Today*    **Bioinformatics Internship** at Institut de Mathématiques de Toulouse.  
*Use of kernel methods to analyse heterogenous biological data.*  
*Supersivion: Sébastien Déjean, Jérôme Mariette.*
- 5.2016 - 11.2017*    **Reasearch scientist** at Biogemma Toulouse.  
*Genetic and biological characterization of sunflower resistance against Oro-banche cumana.*  
*Supersivion: Marie Coque, Sunflower Project Lead   Oilseeds genetics and phenotyping coordinator.*
- 9.2014 - 4.2015*    **Biostatistician, research scientist** at Limagrain Europe.  
*Simulation of plant breeding strategies.*  
*Supersivion: Nicolas Heslot, Head of Biostatistics.*
- 5.2014 - 8.2014*    **Bioanalyst, research scientist** at Limagrain Europe.  
*Barley genome browser development.*  
*Supersivion: Anne-Marie Bochard, Barley molecular breeding Project Leader.*
- 10.2012 - 3.2014*    **Bioanalyst, research scientist** at Biogemma Auvergne.  
*Candidate gene discovery process for plant traits and breeding by analyzing complex datasets in the context of biological pathways and omics data.*  
*Supersivion: Stéphane Lafarge, Gene Discovery Project Leader.*
- 10.2008 - 12.2011*    **Ph.D reasearch studies** at INRA Montpellier/Bayer Cropscience Gent  
*Biological, genetic and molecular analysis of partial resistance of rice to Magnaporthe oryzae.*  
*Supersivion: Jean-Benoît Morel, Group Leader (INRA)   John Jacobs, Senior Scientist (Bayer).*

### LANGUAGES

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<i>French</i>	Native.
<i>English</i>	Fluent.
<i>Spanish</i>	Basic knowledge of writing and speaking.

## PUBLICATIONS AND COMMUNICATIONS

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1. Calderón-González A., Pouilly N., Muños S., Grand X., Coque M., Velasco L., Pérez-Vich B. An SSR-SNP Linkage Map of the Parasitic Weed *Orobanche cumana* Wallr. Including a Gene for Plant Pigmentation. *Frontiers in Plant Science* 2019; 10, 797.
2. Grand, X., Gauthier, A., André, I., Loras, S., Legrand, L., Gouzy, J., Grezes-Besset, B., Coque, M., Muños, S. Genetic and biological approach to decipher *O. cumana* resistance in sunflower wild relatives. Presented at The 14th World Congress on Parasitic Plants, Asilomar, CA, USA (2017-06-24 to 2017-06-30). Book of abstracts (p. 23).
3. Kroj, T., Chancud, E., Michel, C., Grand, X., Morel, J.-B. Integration of decoy domains derived from protein targets of pathogen effectors into plant immune receptors is widespread. *New Phytol* 2016.
4. Grand, X., Espinoza, R., Michel, C., Cros, S., Chalvon, V., Jacobs, J. et Morel, J.-B. Identification of positive and negative regulators of disease resistance to rice blast fungus using constitutive gene expression patterns. *Plant Biotechnology Journal* 2012, 10, 840–850.
5. Vergne, E., Grand, X., Ballini, E., Chalvon, V., Saindrenan, P., Tharreau, D., Nottéghem, J.-L., Morel, J.-B. Preformed expression of defense is a hallmark of partial resistance to rice blast fungal pathogen *Magnaporthe oryzae*. *BMC Plant Biology* 2010, 10, 206-206.
6. Grand, X., Tharreau, D., Nottéghem, J.-L., Brunner, S., Jacobs, J., Morel, J.-B. Forward and reverse genetic approaches in rice to unravel control of partial resistance to pathogens. 6th International Rice Genetics Symposium, 16-19 November 2009; Manila, Philippines.
7. Dogimont, C., Boissot, N., Chovelon, V., Tual, S., Grand, X., Rittener-Ruff, V., Giovinazzo, N., Bendahmane, A. Aphid and virus resistance triggered by the CC-NBS-LRR *Vat* melon gene. In: Genetic control of plant pathogenic viruses and their vectors: towards new resistance strategies. Book of abstracts (p. 34). Presented at International Conference, Cadiz, ESP (2008-11-23 - 2008-11-27).

## SKILLS AND QUALIFICATIONS

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### BIOINFORMATICS STATISTICS

<i>Programming languages</i>	R, Python, Java, C++...
<i>Database Management</i>	SQL, MySQL and NoSQL, Neo4J/CYPHER.
<i>NGS data analysis</i>	Bowtie, FastQC, KmerGenie, Minia, BWA, SamTools...
<i>MultiOmics</i>	mixOmics, mixKernel.
<i>Data Mining</i>	Scikit-learn.

### GENERAL APPROACHES - Biology

<i>Molecular genetics</i>	Forward genetics and cloning (molecular mapping, GWAS, QTLs).
<i>Reverse genetics</i>	Mutant analysis.
<i>Omics</i>	NGS, Expression analysis.
<i>Laboratory</i>	Extended skills in molecular biology, Biochemistry.
<i>Plant Biology</i>	Plant inoculation and phenotyping, Cellular biology.

## EDUCATION

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<i>2019 - 2020</i>	<b>Master in Bioinformatics</b> at University of Montpellier. <i>Bioinformatics, information systems, knowledge extraction.</i> <i>Mark : 16/20, Rank : 1<sup>st</sup>/21</i>
<i>2008 - 2011</i>	<b>Ph.D in Integrative Plant Biology</b> at Montpellier Supagro.
<i>2006 - 2008</i>	<b>Master in Integrative Plant Biology</b> at University of Montpellier. <i>Mark : 13.8/20, Rank : 7<sup>th</sup>/15</i>
<i>2006 - 2008</i>	<b>Bachelor in Biochemistry</b> at University of Nîmes.

## INTERESTS

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<i>Clarinetist</i>	Orchestre d'harmonie La Garonne, XXS trio, Orchestre Tolosa...
<i>Sport</i>	Mtb Transvolcanique, bike travelling, Ski Derby Mont-Dore 2014.
<i>Miscellaneous</i>	Animation Capacity Diploma, First Aid Certificate.
<i>Travel</i>	6.2015 - 12.2015 Working Holiday in Australia.

## REFEREES

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<i>Sébastien Déjean</i>	<b>Research Engineer</b> at Maths Institute of Toulouse, <i>e-mail: sebastien.dejean@math.univ-toulouse.fr,</i> <i>tel: +33 (0)5 61 55 69 16.</i>
<i>Anna-Sophie Fiston-Lavier</i>	<b>Assistant professor</b> at ISEM – Montpellier, <i>e-mail: anna-sophie.fiston-lavier@umontpellier.fr,</i> <i>tel: +33(0)4 67 14 47 15.</i>
<i>Marie Coque</i>	<b>South Europe Phenotyping Lead</b> at Bayer, <i>e-mail: coquemarie@gmail.com,</i> <i>tel: on request.</i>
<i>Anne-Marie Bochard</i>	<b>Cereal Portfolio Manager</b> at Limagrain, <i>e-mail: anne-marie.bochard@limagrain.com,</i> <i>tel: +33(0)4 73 67 89 49</i>
<i>Sébastien Praud</i>	<b>Global maize traits coordinator</b> at Limagrain, <i>e-mail: sebastien.praud@limagrain.com,</i> <i>tel: +33(0)4 73 67 88 34</i>