

CV – Stéphane MAURY (2025)

Section 1 — General information and career overview

Preferred surname: MAURY
First name: Stéphane
NUMEN: 18S0007672FTN
CNU section: 66 – Plant Physiology
Current position: Full Professor (PR1, grade B2) — University of Orléans
Laboratory: P2e (Physiology, Ecology and Environment) (formerly LBLGC), EA1207 – USC1328 INRAE, University of Orléans
Professional address: Rue de Chartres, 45067 Orléans-La Source, France
Professional phone: +33 (0)2 38 41 70 22
Languages: French (native), English (C1 level)
Personal page P2e: Personal page LBLGC
Email: stephane.maury@univ-orleans.fr
ORCID: 0000-0003-0481-0847

Career

summary

I am a Full Professor of Plant Physiology at the University of Orléans. For more than twenty-five years, my research has focused on epigenetic mechanisms involved in developmental plasticity and plant adaptation, particularly in forest trees and cultivated plants. I served as Deputy Director of the LBLGC laboratory (EA1207 – USC1328 INRAE, laboratory website) from 2008 to 2021 and have been leader of the ARCHE research team since 2016. I coordinate the ANR projects EPITREE, EPIMYC and the PEPR ADAAPT project and am a member of the European COST Actions EPI-CATCH, COPYTREE and EPICROPS. As a teacher–researcher, I have also co-led the Master MEEF-SVT programme since its creation in 2011. I am co-author or editor of reference textbooks (Dunod, QUAÉ, ISTE) and strongly involved in education and science outreach for the general public (MOBE). I have been awarded the Scientific Excellence Bonus and its equivalent since 2010 (top 20%).

Key career milestones

2025: Appointed member of the Scientific Council of the INRAE ECODIV department. Co-leader of the ADAAPT project within the national PEPR "Agroecology and Digital" programme (2025–2030, ANR). MC member for France in the European COST Action EPICROPS.
2024: National coordinator of the ANR project EPIMYC 2024–2028. Co-head of the AEB doctoral track (Agronomy, Ecology and Biodiversity) of the SSBCV Doctoral School in Orléans and member of its steering committee.
2023: MC member for France in the European COST Action COPYTREE.
2020: Promotion by the CNU 66 to the 1st class of Full Professors at national level (ranked

among the 3 promotions out of 49 applications). MC member for France in the European COST Action EPI-CATCH (CA19125 – EPIgenetic mechanisms of Crop Adaptation To Climate cHange, <https://www.cost.eu/actions/CA19125/#tabs|Name:overview>) and leader of Working Group 1.

Member of the Centre Council of INRAE Centre-Val de Loire. Member of the Scientific Council of MOBE (Museum of Biodiversity in Orléans) for the renovation and implementation of the new exhibition. Since 2018: National coordinator of the ANR project EPITREE 2018–2021 (ANR-17-CE32-0009-01) <https://www6.inrae.fr/epitree-project/>

Since 2016: Leader of the ARCHE team at LBLGC. 2013–2019: Elected President of the CRD (Committee of Disciplinary Representatives) for CNU sections 66, 67, 68 and 69, University of Orléans. 2012: Appointment as Full Professor (CNU section 66) at the University of Orléans through the national competitive recruitment. 2011: Elected member of the National University Council (CNU), section 66. Since 2010: Co-founder and co-head of the Master "Métiers de l'Enseignement, de l'Éducation et de la Formation en SVT" (MEEF-SVT). Since 2009: Appointed Deputy Director of the LBLGC (Laboratory of Biology of Woody Plants and Large Crops), EA 1207 (LBLGC).

- Qualification for Full Professor positions (CNU section 66).

2008–2011: Member of the national jury for the CAPES external competitive examination in Life and Earth Sciences (SVT). 2006: Habilitation to Supervise Research (HDR) in Life Sciences, University of Orléans. 2003–2007: Member of the national jury for the Agrégation external examination in SVT (sector A).

2000: Recruitment as Associate Professor (Maître de Conférences), CNU section 66, University of Orléans.

- Qualification for Associate Professor positions (CNU sections 64 and 66).
- Fixed-term research contract at the IBMP, CNRS Strasbourg.
- Military service as an officer (Saint-Cyr Coëtquidan then Douai).

1991–2000: University education from the Baccalauréat C (Lycée Mas de Tesse, Montpellier), Classe Préparatoire (Lycée Jean Rostand, Strasbourg), DEUG (with highest honours), Licence (with highest honours), Maîtrise (with highest honours), DEA (with honours) to the PhD in Molecular and Cellular Biology (IBMP, CNRS and Louis Pasteur University, Strasbourg; written congratulations from the jury).

Section 2 — Teaching activity

1. General overview of teaching activity

Since my recruitment in 2000, I have carried a full teaching load of 192 tutorial-equivalent hours (TD) per year.

I teach plant physiology and, more broadly, plant sciences from the second year of the Bachelor programme (L2) up to the second year of the Master (M2). My teaching covers plant physiology, plant developmental biology, parasitology, plant diseases, responses to environmental constraints, plant genetics and breeding, plant biotechnology, epigenetics and epigenomics, as well as methodological modules and written/oral preparation for the national CAPES-SVT examination.

I have also created and taught three cross-disciplinary elective units open to all Bachelor students to introduce them to science: Agronomy of Tomorrow, Epigenetics, and Genetics & Society Challenges. These units use a popularisation and cross-cutting approach based on critical analysis of documents (press, videos, digital resources) and interactive activities, fostering scientific and civic awareness.

I also deliver online teaching using various digital platforms (ENT, TEAMS, Mentimeter, Moodle) and act as digital pedagogical referent for the discipline, responsible for the development of interactive and hybrid resources. Since the post-Covid period, I have coordinated the transition of several modules towards hybrid and asynchronous formats, while supporting colleagues in the use of digital tools.

Among my pedagogical practices, I have developed methodological sessions on critical analysis of scientific publications (L3 and M2) that are systematically reinvested in lectures and assessments. For some units, I have implemented integrated Lecture–Practical sessions, allowing students to move directly from theory to experimentation. These practicals are carried out in small groups (maximum 20 students) in equipped rooms, sometimes in collaboration with public and private researchers. This format promotes diversity of activities within a single session, immediate application of concepts and active learning. In the MEEF-SVT Master, I apply flipped-classroom approaches and examination simulations: autonomous work, active revision, drafting of detailed essay plans and mock oral exams. ENT and Moodle spaces for my modules provide numerous resources (textbooks, videos, interactive MCQs, summary sheets, scientific articles) to support learning and student autonomy. I have designed the plant science teaching pathway in partnership with academic colleagues and INRAE researchers involved in lectures, tutorials or practicals (bioinformatics in M2, genetics and breeding in M1).

I also collaborate with a team of secondary-school teachers for mock CAPES orals within the MEEF-SVT Master. I regularly sit on Master juries and programme committees and contribute to discussions on successive reforms of the CAPES and MEEF Master since 2010.

2. Summary of teaching duties (example academic year 2024–2025)

Degree Level	Type of programme	Type of teaching	Volume (TD-equivalent hours)	Average enrolment	Comments
Bachelor in Life Sciences	L2, L3	Initial training	Lectures, tutorials, practicals ~80–100 h	60–150	Plant physiology, developmental biology, parasitism and major epidemics, plant biotechnology, epigenetics
Master “Biologie Intégrative Changements Globaux” (BICG) and “Forêts et Mobilisation des Bois” (apprenticeship, FMB)	M1, M2	Initial / continuing training	Lectures, tutorials, practicals ~90 h	15–40	Phytopathology, plant genetics and breeding, climate change, genomics, bioinformatics, epigenomics, plant biotechnology
Master MEEF-SVT	M1	Professional training	Lectures, tutorials, mock oral exams ~25 h	15–20	Plant physiology and CAPES-SVT preparation, didactics, active pedagogy, student success support
CMI unit – Applied plant physiology and plant biotechnology	M1 (CMI)	Initial training	Lectures, practicals ~10 h	6–10	

Average annual teaching load above 192 TD-equivalent hours over 25 years, including teaching activities at the Chartres site (science branch closed in 2019).

3. Pedagogical training

Initial pedagogical training (teaching assistantship, 1996–1999). Practical training through participation in national examination juries for CAPES and Agrégation in SVT (2003–2011), in close collaboration with secondary school teachers and pedagogical inspectors (design of national topics, marking, competency assessment). With hindsight, this has been one of the best possible settings for learning how to teach. Participation in the creation of training courses for the Maison pour la Science Centre-Val de Loire (2014–2017), including national training sessions (Versailles, January 2014) and several pedagogical workshops for secondary school teachers.

4. Pedagogical responsibilities

- Co-head of the AEB doctoral track (SSBCV Doctoral School, Orléans) since 2024 (follow-up of PhD students, individual monitoring committees, recruitment juries, interviews...).
- Member of the national jury for the CAPES external competitive examination in SVT (2008–2011) for both written and oral components.
- Member of the national jury for the Agrégation external examination in SVT (2003–2007, sector A) for written exams, practicals and orals, including design of national

topics.

- Co-head of the MEEF-SVT Master (since 2010): head of studies for semester 1 of M1, member of M1/M2 juries and rotating chair of the degree with the three other co-heads. Coordination between three institutional partners: Faculty of Science, OSUC and INSPE, in connection with the Rectorship and the CAPES-SVT jury. Student success rates at the national CAPES exam are regularly above the national average.
- Coordinator of plant physiology teaching in Orléans (since 2018). Follow-up of the technical staff and pedagogical equipment for practicals (fume hoods, phytotron, spectrophotometer, PCR, etc.); annual interviews and day-to-day supervision of the technical staff (2001–2023).
- Responsible for more than ten teaching units at Bachelor and Master levels. Regular participation in Master juries since 2000. Elected member of the board and deputy head of the Biology Department (2004–2012).
- Participation in the creation and coordination of plant science teaching within the Professional Bachelor "Végétal" (2017–2019) in partnership with horticultural programmes.
- Member of the Scientific Council of MOBE (Museum of Biodiversity, Orléans, since 2019) for the development of the new structure and educational exhibition (for example on epigenetics).

5. Outreach, visibility and international teaching

- Visiting lecturer at ENS Lyon (2007–2008) and Université Paris 6 (2011–2014) – teaching in the Agrégation Master in SVT and the Master in Integrative Plant Biology.
- Design of two professional training courses for the Maison pour la Science (2015–2017): "The cell" and "The forest, an ecosystem managed by humans".
- Co-organiser and trainer for the CNRS thematic school "Epigenetics, Ecology and Evolution" (2015, 2019, 2020).
- Organisation in 2021, together with INRAE Val de Loire and the Vegepolys Valley competitiveness cluster, of a one-day event on "Innovative management of abiotic stress" aimed at agronomic professionals, with a strong focus on plant epigenetics.
- International teaching: Master "Epigenetics of Plants", Charles University, Prague (since 2019).
- European training activities in the COST Actions EPI-CATCH, COPYTREE and EPICROPS (2020–2029): trainer in training schools (2022, 2023) on epigenomic approaches applied to plants.
- Annual contribution (since 2017) to the teaching cycle at the Muséum national d'Histoire naturelle (Paris): lectures for Paris doctoral schools on epigenetics across the living world.

- Author of chapters in the textbooks *Biologie tout-en-un* (Dunod, 2014; revised edition 2021) – expertise in plant sciences – and editor/co-author of volumes published by QUAE (2024) and ISTE (2024, 2025) on epigenetics.

6. **Summary of teaching activities**

Since my recruitment at the University of Orléans in 2000, I have consistently delivered a full teaching service of 192 TD-equivalent hours per year (over 4,800 hours in 25 years) in plant sciences, from physiology and genetics to epigenetics and biotechnology. I have designed and coordinated more than ten teaching units from L2 to M2, including hybrid formats and open modules ("Agronomy of Tomorrow", "Epigenetics", "Genetics & Society Challenges"). I have held long-term responsibilities as co-head of the MEEF-SVT Master since 2010, coordinator of plant physiology teaching since 2018, and co-head of the EB track of the SSBCV Doctoral School since 2024. I also served for nine years on the national juries of CAPES and Agrégation in SVT and taught as a visiting lecturer at ENS Lyon. My commitment extends beyond the French university system: training of teachers through the Maison pour la Science, co-organisation of CNRS thematic schools on epigenetics for professionals (2015, 2019, 2020, 2024), and an INRAE–Vegepolys Valley day on plant adaptation (2021). I am also author and editor of several university textbooks for the teaching of Biology and Epigenetics. Internationally, I regularly contribute to the Master "Epigenetics of Plants" (Charles University, Prague) and to European training activities in the COST Actions EPI-CATCH, EPICROPS and COPYTREE since 2020. Altogether, these activities reflect a teaching profile that combines academic training, digital innovation and international openness, contributing to the visibility of plant biology and epigenetics.

Section 3 — Scientific activity

1. Brief overview of research themes

I began my research career at the Institute of Plant Molecular Biology (IBMP, CNRS Strasbourg) within the DEA in Molecular and Cellular Biology in Strasbourg coordinated by Jules Hoffmann (Nobel Prize in Physiology or Medicine, 2011). My first research projects (DEA, PhD and postdoctoral contract) focused on genetic engineering applied to lignin biosynthetic enzymes and defence-related secondary metabolites in tobacco. These studies led to the discovery of a new enzymatic activity, improving our understanding of phenylpropanoid pathways and plant–pathogen interactions, within the framework of the European TIMBER programme.

Recruited in 2000 as Associate Professor at the University of Orléans, I initiated at LBLGC a research line on epigenetic determinants of morphogenesis in sugar beet, in partnership with the seed company SES-VanderHave. These pioneering studies highlighted the importance of DNA methylation in morphogenesis and developmental plasticity, and led to the identification of epigenetic biomarkers of bolting. Several PhD theses (CIFRE, regional–industrial funding) and publications followed.

My Habilitation to Supervise Research (HDR, 2006) paved the way for leading a team dedicated to the interactions between epigenetics, development and environmental responses. This work enabled the introduction of high-throughput technologies (MeDIP-chip, then Illumina sequencing) into the study of DNA methylation in non-model plants. Since 2008, my research has extended to understanding environmental epigenetic memory in forest trees (notably poplar as a woody model). The objective is to assess the contribution of DNA methylation and chromatin structure to phenotypic plasticity and local adaptation. My team demonstrated that epigenetic determinants in the cambium could predict productivity or drought tolerance (ANR SYLVABIOM, 2008–2011).

In 2018, I coordinated the ANR project EPITREE (2018–2023, €0.75 M) on epigenetics and tree adaptation to climate change, bringing together six French laboratories (CNRS, INRAE, CEA, universities) and two foreign partners (Spain, USA). This project, aligned with the European programmes EPIDIVERSE and EPI-CATCH, provided the first demonstration of environmental epigenetic memory in poplar and oak by linking DNA methylation, gene expression and phenotypic plasticity.

In parallel, I am a member of the Core Groups and leader of Working Group 1 in the European COST projects EPI-CATCH (2020–2023, CA19125; 27 countries) on epigenetic mechanisms of crop adaptation to climate change and EPICROPS (2025–2028, CA24152) on epigenetic and epitranscriptomic regulation in plants. I

have also initiated and/or participated in several recent national or international collaborative projects:

- EpiCORK (FCT Portugal, 2021–2025): study of epigenetic memory in cork oak (*Quercus suber*), with Vera Inácio;
- GDR "Epigénétique, Écologie et Évolution" (CNRS): collaborative network on how epigenetics reshapes ecology and evolution;
- TreePriming consortium (unfunded, Canada–Europe, 2022–2025): network on epigenetic plasticity and priming in trees;
- COSMENOVIC (Le Studium, 2018–2020): European consortium on optimisation of secondary metabolite production and epigenetic control;
- COPYTREE COST project (2023–2026, CA21157) on in vitro culture of woody species, with WG1 addressing epigenetic regulation and recalcitrance.

2. Publications: five most significant publications

My group develops integrative approaches combining epigenomics, transcriptomics, phenotyping and modelling, in collaboration with several European teams (Portugal, Czech Republic, Spain, Canada). Our goal is to link DNA methylation patterns to traits of agronomic and ecological interest and to build predictive multi-omics models of adaptive responses. My scientific output includes more than 70 articles in international peer-reviewed journals (including *New Phytologist*, *Journal of Experimental Botany*, *Frontiers in Plant Science*, *Annals of Forest Science*), with both academic and private partners. Five selected examples:

In Le Gac et al. (2018; ANR SYLVABIOM), we showed that poplar maintains an environmental epigenetic memory (DNA methylation) across seasons (winter to spring) in the shoot apical meristem. See the press release on this article in the Annex.

- Le Gac A L, Lafon Placette C, Chauveau D, Segura V, Delaunay A, Fichot R, Marron N, Le Jan I, Berthelot A, Bodineau G, Bastien J C, Brignolas F, Maury S. 2018. Winter dormant shoot apical meristem in poplar trees shows environmental epigenetic memory. *Journal of Experimental Botany* 69: 4821–4837. doi:10.1093/jxb/ery271.

In Sow et al. (2021; ANR EPITREE), we demonstrated that DNA methylation controls both hormonal responses to drought and genome stability in the poplar shoot apical meristem. We identified active transposable elements capable of generating mutations following drought. See the related press release in the Annex.

- Sow M D, Le Gac A L, Fichot R, Lanciano S, Delaunay A, Le Jan I, Lesage Descauses M C, Citerne S, Caius J, Brunaud V, Soubigou Taconnat L, Cochard H, Segura V, Chaparro C, Grunau C, Daviaud C, Tost J, Brignolas F, Strauss S H, Mirouze M, Maury S. 2021. RNAi suppression of DNA methylation affects the drought stress response and genome integrity in transgenic poplar. *New*

Phytologist 232: 80–97. <https://doi.org/10.1111/nph.17555>

In Vigneaud et al. (2023; basis of the ANR EPIMYC project), we showed for the first time that DNA methylation controls mycorrhizal capacity in poplar. We identified candidate loci in both the tree and the mutualistic fungus. See the related press release in the Annex.

- Vigneaud J, Kohler A, Sow M D, Delaunay A, Fauchery L, Guinet F, Daviaud C, Barry K W, Keymanesh K, Johnson J, Singan V, Grigoriev I V, Fichot R, Conde D, Perales M, Tost J, Martin F, Allona I, Strauss S, Veneault Fourrey C, Maury S. 2023. DNA hypomethylation of the host tree impairs interaction with mutualistic ectomycorrhizal fungus. New Phytologist 238: 2561–2577. doi:10.1111/nph.18734.

In Trontin et al. (2025; Région INTEMPERIES project), we showed for the first time a post-embryonic epigenetic memory (2 years) following thermoprimering of maritime pine somatic embryos and identified candidate loci in the tree. See the related press release in the Annex.

- Trontin J-F, Sow M D, Delaunay A, Modesto I, Teyssier C, Reymond I, Canlet F, Boizot N, Le Metté C, Gibert A, Chaparro C, Daviaud C, Tost J, Miguel C, Lelu-Walter M-A, Maury S. 2025. Epigenetic memory of temperature sensed during somatic embryo maturation in 2-yr-old maritime pine trees. Plant Physiology 197(2), kiae600. <https://doi.org/10.1093/plphys/kiae600>

In Brunel-Muguet et al. (2025, COST Action Europe EPI-CATCH), a collective of researchers involved in the COST Action summarises promising avenues, particularly in epigenetics, for improving seed production in the seed industry.

- Brunel Muguet S, Baránek M, Fragkostefanakis S, Sauvage C, Lieberman Lazarovich M, Maury S, Kaiserli E, Segal N, Testillano P S, Verdier J. 2025. Maternal environmental effects and climate smart seeds: unlocking epigenetic inheritance for crop innovation in the seed industry. The Plant Journal 123: e70407. <https://doi.org/10.1111/tpj.70407>.

3. **Doctoral and scientific supervision**

I have supervised numerous interns (>40 individuals) from BTS to Master, PhD and postdoctoral levels. These supervisions take place within my team in close collaboration with our technician (Alain Delaunay) and often involve PhD students in the supervision of BTS and Master internships under my responsibility, thereby training them in mentoring.

Summary of supervisions:

Main supervisor / PhD director (or co-director) Co-supervisor

Postdoc		1	2
PhD		9	4
Master	2		3
Master	1		1
BTS	3		1

In addition, I have hosted foreign students in recent years and supervised five doctoral stays in the laboratory (Czech Republic: Eva Nevrtalova, 2 months in 2013; Spain: Daniel Condé, 2 months in 2015 and 1 month in 2016; Portugal: Joana Amaral, 2 weeks in 2019; Ahlem Ben Ahmed, University of Sfax, 2 weeks as part of COST EPI-CATCH; and Michela Montone, University of Pisa, 2 weeks as part of COST COPYTREE) and one short postdoctoral stay (Portugal: Monica Escandon, 2 weeks). A European PHC Pessoa project was submitted at the end of 2019 (not funded) to support doctoral and postdoctoral exchanges with Portugal and my team.

4. Outreach and scientific visibility

Expert evaluations (national and international bodies)

- Reviewer/assessor for: ANR (France), NSERC – Canada (2020–2022, Biological Systems & Functions panel EG1502), BMBF – Germany (2021, initiative "Epigenetics – chances for plant research", National Research Strategy BioEconomy 2030), NWO – Netherlands (2020), NCN – Poland (2016), FCT – Portugal; EU Marie Curie Plant Fellows (2013).
- France: IDEX strategic thematic actions, University of Toulouse (2013); LabEx COTE, University of Bordeaux (2016); LabEx ARBRE, University of Lorraine (2017); INRA/INRAE: SelGen metaprogramme (2016), evaluation of EFPA PhD grants (2018), INRAE-EFPA strategic prospective exercise (PAM4, 2018 – workshop facilitation and report writing).
- CNRS-INEE prospective exercises: co-writing of synthesis reports in 2012 ("Genetic and non-genetic inheritance...") and 2017 ("Epigenetics in all its dimensions").
- Transfer and industry: facilitation of a workshop on CIFRE theses (inter-cluster, Région Centre-Val de Loire, 26/06/2018); Végépolys webinar "Epigenetics and plant breeding" (7/06/2019).

Councils and committees

- Scientific Council of MOBE – Museum of Orléans (since 2018); design of a showcase/poster/demonstration space on epigenetics (2021).
- ORACLE network – Loiret Chamber of Agriculture, climate change (since 2018).

- Member of RTP3E (2014) then GDR3E (since 2018); contribution to the GDR3E proposal (end of 2016).
- Recruitment committees (MCF/PR): Tours, Clermont-Ferrand, Nancy, Angers, Orléans.
- Jury member, Doctoral School ED567 Orsay (PhD grants, 38 candidates interviewed), 28–30/06/2016.

Editorial and reviewing activities

- Editorial boards: ISRN Botany; Forests (since 29/06/2020) — regular involvement (1–2 manuscripts/week until final decision).

- Guest Editor:

- o Genes — "Gene expression and epigenetic regulation" (MDPI): https://www.mdpi.com/journal/genes/special_issues/plant_epigenetic_mechanisms

- o Forests — "Tree epi/genomics & breeding" (MDPI): https://www.mdpi.com/journal/forests/special_issues/Tree_Genomics_Breeding#editor_s

- Reviewer for >20 international peer-reviewed journals, including: Journal of Biotechnology, Journal of Crop and Horticulture, Plant Growth Regulation, Plant Breeding, Journal of Food Technology and Biotechnology, Annals of Forest Science, Journal of Plant Physiology, Journal of Experimental Botany, Natural Product Research, New Phytologist, Plant Cell Reports, BMC Genomics, Plant Biotechnology Journal, Plant Physiology and Biochemistry, Epigenomes, International Journal of Molecular Sciences, Forests, Frontiers in Plant Science, Acta Physiologiae Plantarum, Philosophical Transactions of the Royal Society B.

PhD and HDR juries (outside home institution)

- PhD theses: Abdul Rehman Khan (Paris-Sud, 2013), Roberto Bobadilla Landey (Montpellier, 2013), Mélanie Thomas (Clermont-Ferrand, 2014), Sara Fneich (Perpignan, 2014), Wei Yeng Hooi (CIRAD Montpellier, 2015), Victor Carocha (University of Lisbon, Portugal, 2016), Oliver Tusevski (Skopje, 2017), Benjamin Liegard (Agrocampus Ouest Rennes, 2018), Raphaël Ployet (CNRS Toulouse, 2017), Noémie Vimont (INRA Bordeaux, 2018), Andreia Sofia Santos Rodrigues (ITQB Lisbon, 2020), Adrien Perrin (INRA Angers, 2020); examiner: Loris Praxt (Antibes, 2017).
- HDR: Estelle Jaligot (CIRAD Montpellier, 14/12/2016); Julie Leclercq (CIRAD Montpellier, 26/01/2017); Vincent Coustham (INRA Tours, end of 2021).

Dissemination, learned societies and outreach

- Networks & societies: Scientific council RTP3E/GDR3E; SEB, SEF, Société Française de Biologie; active member of GDR "Plasticité Phénotypique".
- Events: AAF day "Epigenetics and plant breeding" (14/11/2018); Société Française de Biologie – session "Plasticity in plants" (21/01/2020).
- Public outreach: "Fête de la Science" and Open Days at the University of Orléans (annual).

- Secondary education: Maison pour la Science CVL (two training sessions/year); hosting of high-school pupils (research projects) and workshops for middle-school students.
- Professionals: seminars and round tables (Limagrain, Chappes; Nestlé Centre, Tours; Végépolys, Angers; GIS BV, Paris; CNP Poplar, Orléans, 24/04/2015).
- Articles for professionals: Maury et al. (2014, Association des semenciers français); Bastien et al. (2015, for poplar growers); GIS BV synthesis "Epigenetics and plant breeding": <http://www.gisbiotechnologiesvertes.com/fr/16-evenements/34050-prise-en-compte-des-processus-epigenetiques-en-amelioration-varietale>

Organisation of conferences, workshops and meetings

- Co-organiser and trainer: thematic school "Epigenetics – Ecology – Evolution" (18–22/05/2015, Saint-Pierre d'Oléron) — scientific programme, funding; workshops on "Epigenetics and phenotypic plasticity" and "Molecular tools and choice of species". Training school in Prague (Czech Republic) for COST EPI-CATCH with C. Lafon-Placette and I. Sammarco on plant epigenetics (epigenetics and bioinformatics). Trainer at the COPYTREE COST Action Training School, San Remo (Italy, 2024) on in vitro culture and epigenetics.
- GIS BV (with H. Vaucheret) — Workshop "Taking epigenetic processes into account in plant breeding" (9–10/11/2015).
- Organiser: kick-off meeting of ANR EPITREE (14–15/03/2018, INRA Orléans) and final meeting (2023). Plant epigenetics workshops for COST EPI-CATCH in Madrid (2021) and Orléans (2023).
- Co-organisation of the GDR3E conference (2020).
- Co-organiser of international COST EPI-CATCH conferences: online (2020, due to COVID), Crete (Greece, 2021), Sofia (Bulgaria, 2022), Novi Sad (Serbia, 2023) and Bordeaux (France, 2024).

Networks, mobility and international invitations

- RTP3E mobility grant (2015) with A-L. Le Gac — work at LGDP (M. Mirouze) and IHPE (C. Grunau), University of Perpignan.
- Scientific expert: egoSELF (Eucalyptus globulus, FCT Portugal, 2016–2019 ~€200 k); PurpleWalls (Salix purpurea, NCN Poland, 2016–2019, 1.5 M PLN).
- Invited talks: Umeå Plant Biology (Sweden, 2023), PhenPlasPlants (Potsdam, Germany, 2025), Jurmala (Latvia, 2024), Prague (2019), Poznań (2015, 2019), Lisbon (2020).
- Québec–France Environmental Genomics days (La Rochelle, 7–8/10/2019).
- Networks and projects: Tree Priming Consortium (Université de l'Outaouais, Canada), COSMENOVIC (Le Studium, 2018–2020), PESSOA programme (Portugal, evaluation 2020), teaching in the Master "Plant Epigenetics", Charles University, Prague (<https://lab-alliance.natur.cuni.cz/plantproevo/teaching/plantepig>).

5. Scientific responsibilities and projects

- Leader of the ARCHE team (LBLGC) since 2016: 9 members, 6 academics, 3

technical/administrative staff, 3 PhD students/postdocs. Budget dependent on grants (≈€1 M over a four-year period).

- Deputy Director of LBLGC (2008–2021): scientific coordination, project management, seminar organisation.
- Coordinator of ANR projects EPITREE and EPIMYC and co-leader of the ADAAPT project within the PEPR "Agroecology and Digital" programme; partner in ANR SYLVABIOM and in the Portuguese projects EpiCORK and POPRIMERS (FCT).
- Recent projects (2018–2025): ANR EPITREE (2018–2023), ANR EPIMYC (2024–2028), ADAAPT (PEPR Agroecology and Digital, 2025–2030), EpiCORK (FCT Portugal, 2021–2025) and POPRIMERS (2025–2029), COST Actions EPI-CATCH (2020–2025), COPYTREE (2022–2026) and EPICROPS (2025–2029).

Research contracts obtained through competitive calls or bilateral agreements

(English versions of the project descriptions already provided in the original have been retained, with minor stylistic adjustments.)

2025–2030 – In-progress project, Co-Principal Investigator and Co-Pilot of PEPR Agroecology and Digital project ADAAPT: “Evolutive and functional impacts of epigenetic variations in forest trees” (ANR-24-PEAE-0001; €6,000,000 total funding). Supervisor: L. Drouilhlet, INRAE Toulouse; Co-PI: Stéphane Maury, Université d’Orléans, INRAE, France.

<https://www.pepr-agroekonum.org/eng/funded-projects/genetic-resources/cfp-awarded-project/adaapt>

2025–2028 – Approved project, Partner in project PoPRIMERS (FCT-funded). Coordinator: Vera Inácio, University of Lisbon, Portugal. Stéphane Maury, Université d’Orléans, INRAE, France.

2025–2028 – Approved project, Partner and France MC member and WG1 leader of COST Action EPICROPS (CA24252): “Epitranscriptomics and ncRNAs for climate-change-resilient and sustainable crops.” Project coordinator: Jesús Pascual Vázquez, University of Oviedo, Spain. <https://www.cost.eu/actions/CA24152/>

2024–2028 – Approved project, Principal Investigator and Coordinator of ANR project EpiMyc: “Epigenetic of Mycorrhizae” (ANR-24-CE20-5751-01). Co-supervision: Claire Fourrey-Veneault (INRAE Nancy). Stéphane Maury, Université d’Orléans, INRAE, France. <https://eng-epimyc.hub.inrae.fr/>

2020–2024 – Concluded project, Partner, France MC member and WG1 leader of COST Action EPI-CATCH (CA19125): “EPIgenetic mechanisms of Crop Adaptation To Climate cHange.” Coordinator: Federico Martellini, University of Firenze, Italy. <https://www.cost.eu/actions/CA19125/#tabs|Name:overview>

2021–2025 – In-progress project, Partner in project EpiCORK: “Epigenetic regulation of cork oak development and stress responses” (FCT-funded project). Coordinator: Vera Inácio, University of Lisbon, Portugal. Stéphane Maury, Université d’Orléans, INRAE, France.

2018–2023 – In-progress project, Partner in project VALOPAT: “Valoriser les données du patrimoine culturel et naturel.” Funded by CNRS, INRAE and the Universities of Orléans and Tours (€6,016,000 total; €52,000 for INRAE Orléans). Scientific coordinator: David Giron (CNRS).

2018–2023 – Concluded project, Principal Investigator and Coordinator of ANR project EPITREE: “Evolutive and functional impacts of epigenetic variations in forest trees” (ANR-17-CE32-0009-01; €756,000). Stéphane Maury, Université d’Orléans, INRAE, France. <https://www6.inrae.fr/epitree-project/>

2018–2021 – Concluded project, Participant in the COSMENOVIC consortium funded by Le Studium (Centre-Val de Loire Region) to support the creation of a European research consortium in epigenetics and stress adaptation. Coordinator: Nathalie Giglioli-Guivarch, University of Tours, France.

2016–2017 – Concluded project, Partner in INRA-funded Innovative Project (EFPA Department): “Implication de l’épigénome dans l’adaptation de la jussie au milieu terrestre” (€4,000; 12 months). Coordinator: Dominique Barloy, Agrocampus Ouest, France.

2015–2016 – Concluded project, Partner and Leader of IMTEMPERIES Project: “IMpact de la TEMpérature sur le dévelopPEment embryonnaire de deux conifères d’avenir en région Centre: analyses pRotéomIques et EpigénétiqueS” (Région Centre Agreement n°14050; €59,000). Coordinator: Marie-Anne Lelu-Walter, INRA Orléans, France.

2015–2016 – Concluded project, Partner and Leader of ABISAL Project: “Architecture et BioIngénierie de la Synthèse d’ALcaloïdes à haute valeur ajoutée” (Région Centre Convention n°14051; €36,000). Coordinator: Vincent Courdavault, University of Tours, France.

2014–2016 – Concluded project, Principal Investigator of INRA Innovative Project INNOVANT-2014: “Impact of a deficient DNA methylation on the adaptation of poplar to drought” (Grant PI EFPA CONVENTION_14039). Coordinator: Stéphane Maury, Université d’Orléans, INRAE, France.

2013–2015 – Concluded project, Principal Investigator of private research contract with SB Production: “In vitro multiplication of crops” (CONVENTION_13050). Coordinator: Stéphane Maury, Université d’Orléans, INRAE, France.

2012–2013 – Concluded project, Research contract with Limagrain: “Méthylation Maïs” (CONVENTION_496N; total €64,000 excluding VAT). Includes €25,000 operating costs and €39,000 post-doctoral contract (12 months). Coordinator: Stéphane Maury, Université d’Orléans, INRAE, France.

2011–2012 – Concluded project, Research contract with SESVanderHave (Belgium): “Research and screening of epigenetic markers for assisted selection of a field crop plant: sugar beet” (€31,933 excluding VAT). Includes €11,933 operating costs and €20,000 fixed-term contract funding. Coordinator: Stéphane Maury, Université d’Orléans, INRAE, France.

2009–2013 – Concluded project, Participant in ANR Bioenergies project SYLVABIOM:

“Nouveaux concepts de cultures ligneuses durables pour la production de biomasse à des fins énergétiques” (€63,056 sub-contract; total project €830,363). Coordinator: Jean-Charles Bastien, INRA Orléans, France.

2008–2011 – Concluded project, Research contract with SESVanderHave (Belgium): “Research and screening of epigenetic markers for assisted selection of a field crop plant: sugar beet” (€105,226 excluding VAT). Includes €50,548 operating costs and €54,678 CIFRE PhD grant (ANRT n°0379/2008, C. Hébrard). Coordinator: Stéphane Maury, LBLGC EA1207.

2008–2009 – Concluded project, Research contract with SESVanderHave (formerly ADVANTA) (Belgium): “Criblage de marqueurs de morphogenèse : germination / régénération in vitro de betterave sucrière” (€12,103 total, convention 222N). Included two 6-month M2 internships (C. Lafon-Placette and C. Latruwe). Coordinator: Stéphane Maury.

2005–2008 – Concluded project, Project manager of Biotechnocentre / Région Centre research contract (CPR n°04.08.22; €27,000): “Development of a diagnostic test for vernalization of a field crop: sugar beet.” Coordinator: Stéphane Maury, LBLGC EA1207, University of Orléans, in collaboration with ADVANTA.

2005–2007 – Concluded project, Research contract with SESVanderHave (formerly ADVANTA) (Belgium): “Identification of vernalization markers on sugar beet” (€15,000; Agreement 014L). Coordinator: Stéphane Maury.

2004–2005 – Concluded project, Research contract with ADVANTA (Belgium): “Identification of vernalization markers on sugar beet” (€15,000; Convention 385Q). Coordinator: Stéphane Maury, University of Orléans.

2001–2004 – Concluded project, Participant in international cooperation project COCOP: “Plant physiology: study of the development of plants of economic interest” (€60,000). Funded by the French Ministry of Foreign Affairs, involving the Universities of Orléans, Zagreb (Croatia), Sarajevo (Bosnia-Herzegovina) and Skopje (Macedonia). Included three PhD fellowships (2001–2004). Project leader: D. Hagège.

Other projects

Between 2012 and 2025, I also submitted, as PI or partner, several research projects that were not funded but demonstrate sustained activity in project development: ANR Bioadapt 2012 and 2016, ANR Wallsystem 2017 and 2018, ANR Epigeneterosis 2017, ANR ConeKT 2019, a regional project with the start-up Echogreen (2018), the European Metropolitan Citizens’ Climate Pilot (2018), the European H2020 project MARCUS (2019), the PHC Pessoa project with Portugal (2019), the C. Miguel FCT project EMBRYOSTASIS (Portugal), ANR Idemm (2024), INRAE Explorae project EPIBOOST (2024), ANR Metvig (2025).

6. Summary of research activities

Since 2000, I have developed at the University of Orléans an original research line on epigenetic control of development and stress responses, combining molecular

biology, epigenomics and ecophysiology. I have already supervised or co-supervised ten PhD theses (three ongoing) and more than forty internships from BTS to postdoctoral level within the ARCHE team (LBLGC) that I have led since 2016.

My scientific output includes more than 70 peer-reviewed papers (New Phytologist, Journal of Experimental Botany, Frontiers in Plant Science, Annals of Forest Science, Forests, etc.), over 100 communications in national and international conferences, several collective volumes and numerous outreach contributions for the general public (press, radio, webinars; see Annex). I have coordinated and continue to coordinate several projects (over 17 since my appointment as Full Professor) at regional and national levels (ANR EPITREE 2018–2023; EPIMYC 2024–2028; ADAAPT 2025–2030 within the PEPR Agroecology and Digital programme) and act as partner or work-package leader in European programmes (COST EPI-CATCH, COPYTREE, EPICROPS; FCT EpiCORK and PoPRIMERS in Portugal) as well as in research contracts with seed companies. Nationally and regionally, my work relies on strong collaborations with INRAE, CNRS and the Centre-Val de Loire Region, and internationally with laboratories in Europe and the USA, together with evaluation activities for national and international agencies.

Internationally, I have established long-term collaborations with Portugal, the Czech Republic, Canada and Spain and regularly deliver invited talks (Umeå 2023, Potsdam 2025, Prague 2019, etc.). These studies, integrating genomics, transcriptomics and epigenomics, contribute to redefining models of environmental memory and epigenetic adaptation, while opening concrete perspectives for breeding and forest resilience in the context of climate change.

Section 4 — Collective and administrative responsibilities

1. General presentation

For more than twenty years, I have been involved in responsibilities at the interface of teaching, research and management, both at the level of the University of Orléans and within national and European networks. In teaching, I am co-head of the MEEF-SVT Master since its creation in 2010, coordinator of plant physiology teaching, and responsible for several teaching units from Bachelor to Master level. In research, I served as Deputy Director of LBLGC (EA1207, USC1328 INRAE) from 2008 to 2021 and have been leader of the ARCHE team since 2016. These roles are complemented by continuous involvement in scientific and administrative councils of the University and partner organisations (INRAE, CNRS, Région Centre-Val de Loire, Museum of Orléans, etc.).

2. Administrative responsibilities

- Deputy Director of the Laboratory of Biology of Woody Plants and Large Crops (LBLGC, EA1207 USC1328 INRAE), University of Orléans (2008–2021).
 - o Scientific and administrative management of the laboratory (40 members: 23 academics, 7 technical/administrative staff, 10 PhD students/postdocs).
 - o Coordination of the AERES 2011 and HCERES 2016 evaluation reports, and co-writing for the ARCHE team in the 2022 evaluation dossier.
 - o Organisation and chairing of LBLGC scientific seminars (2009–2015).
- Leader of the ARCHE team (Analysis and Regulation of Epigenetic Changes) since 2016.
 - o Scientific and budgetary management of the team.
 - o Support for management of GMO certifications and annual interviews for technical staff and fixed-term contracts.
- Co-head of the MEEF-SVT Master (since 2010).
 - o Pedagogical coordination and implementation of successive reforms (five re-accreditations).
 - o Strong links with INSPE, OSUC and the Rectorate.
 - o Chair of the M1–M2 jury and overall academic coordinator of the programme.
- President of the Committee of Disciplinary Representatives (CRD) for CNU sections 66–69, University of Orléans (2013–2017).
 - o Organisation of recruitment committees (Full Professors, Associate Professors, temporary staff) and follow-up of internal promotions.
- Scientific coordinator for the University of Orléans within the Maison pour la Science Centre-Val de Loire (2013–2016).
 - o Creation and delivery of two training programmes ("What is a cell?", "The forest, a managed ecosystem?").

3. **Regional and national responsibilities**

- 2025: Appointed member of the Scientific Council of the INRAE ECODIV department.
- Co-leader of the ADAAPT project within the PEPR "Agroecology and Digital" programme (2025–2030).
- Member of the Centre Council of INRAE Centre-Val de Loire (since 2020).
- Member of the Scientific Council of MOBE (Museum of Orléans) (since 2018).
- Member of the ORACLE network (Loiret Chamber of Agriculture, climate change, since 2018).
- Elected member of the Biology Department and local commission for CNU sections 66–69 at the University of Orléans (since 2004).
- Member of the Scientific Council of LBLGC (since 2008).
- Participation in the governing councils of the Faculty of Sciences and OSUC (2021–2025).
- Member of the European COST network EPI-CATCH (since 2020): Core Group member and leader of WG1.
- Scientific evaluator for ANR, NSERC (Canada), FCT (Portugal), BMBF (Germany), NWO (Netherlands), NCN (Poland).
- Participation in recruitment committees (Full Professors/Associate Professors, CNU sections 66–68–69) in Tours, Clermont-Ferrand, Nancy, Angers and Orléans (2015–2024).
- Contributor to INRAE EFPA and CNRS INEE prospective exercises, workshop facilitator and author of thematic syntheses on epigenetics.

4. **International responsibilities and project coordination**

- National coordinator of ANR EPITREE (2018–2021) and partner in the FCT project EpiCORK (Portugal, 2021–2025).
- Leader of WG1 in the European COST Action EPI-CATCH (2020–2025).
- Partner in the TreePriming consortium (Canada, 2022–2025) and EPIPLANT (2024–2025).
- External expert for BMBF (Germany, 2021) and NSERC (Canada, 2020–2022).
- Invited speaker at several foreign universities: Prague, Lisbon, Poznań, Umeå, Outaouais, Jurmala.

5. **Summary of administrative responsibilities**

These responsibilities demonstrate a long-standing commitment to shaping research and education at the University of Orléans and at national and European levels. They highlight a recognised ability to lead teams, coordinate interdisciplinary projects and represent the French scientific community in plant physiology and plant epigenetics. Locally, I served as Deputy Director of LBLGC (EA1207 – USC1328 INRAE) from 2008 to 2021, ensuring scientific and budgetary coordination and HCERES

evaluations, and I have led the ARCHE team (Analysis and Regulation of Epigenetic Changes) since 2016. In parallel, I have co-led the MEEF-SVT Master since 2010, ensuring pedagogical coherence between the Faculty of Sciences, INSPE and the Rectorate, and I coordinate plant physiology teaching. My engagement also extends to national and international bodies: Scientific Council of the ECODIV department and INRAE Centre-Val de Loire, Scientific Council of MOBE, participation in CNU (section 66). I have contributed to scientific prospective exercises for INRAE-EFPA and CNRS-INEE and provided expertise for major funding agencies (ANR, BMBF, NSERC, FCT, NWO). At the international level, I co-lead European projects (COST EPI-CATCH, COPYTREE, EPICROPS) involving more than 25 countries and act as an expert and invited trainer at several European universities (Prague, Lisbon, Umeå, Poznań).

Section 5 — Appendices: Publications

Articles in international peer-reviewed journals:

*: first co-authors.

\$: corresponding author

- Martz F, Maury S, Pinçon G, Legrand M. 1998. cDNA cloning, substrate specificity and expression study of tobacco caffeoyl-CoA 3-O-methyltransferase, a lignin biosynthetic enzyme. *Plant Molecular Biology* 36: 427–437. doi:10.1023/A:1005969825070
- Maury S, Geoffroy P, Legrand M. 1999. Tobacco O-methyltransferases involved in phenylpropanoid metabolism. The different caffeoyl-Coenzyme A/5-Hydroxyferuloyl-Coenzyme A 3/5-O-methyltransferase and caffeic acid/5-Hydroxyferulic acid 3/5-O-methyltransferase classes have distinct substrate specificities and expression patterns. *Plant Physiology* 121: 215–223. doi:10.1104/pp.121.1.215
- Pinçon G, Maury S, Hoffmann L, Geoffroy P, Lapierre C, Pollet B, Legrand M. 2001. Repression of O-methyltransferase genes in transgenic tobacco affects lignin synthesis and plant growth. *Phytochemistry* 57: 1167–1176. doi:10.1016/S0031-9422(01)00098-X
- Hoffmann L, Maury S, Bergdoll M, Thion L, Erard M, Legrand M. 2001. Identification of the enzymatic active site of tobacco caffeoyl-Coenzyme A O-methyltransferase

by site-directed mutagenesis. *Journal of Biological Chemistry* 276: 36831–36838. doi:10.1074/jbc.M104977200

- Hoffmann L, Maury S, Martz F, Geoffroy P, Legrand M. 2003. Purification, cloning and properties of an acyltransferase controlling shikimate and quinate ester intermediates in phenylpropanoid metabolism. *Journal of Biological Chemistry* 278: 95–103. doi:10.1074/jbc.M209362200
- Gadzovska S, Maury S, Ounnar S, Righezza M, Kascakova S, Refregiers M, Spasenoski M, Joseph C, Hagège D. 2005. Identification and quantification of hypericin and pseudohypericin in different *Hypericum perforatum* L. in vitro cultures. *Plant Physiology and Biochemistry* 43: 591–601.
- Causevic A, Delaunay A, Ounnar S, Righezza M, Delmotte F, Brignolas F, Hagège D, Maury S. 2005. DNA methylating and demethylating treatments modify phenotype and cell wall differentiation state in sugarbeet cell lines. *Plant Physiology and Biochemistry* 43: 681–691.
- Marron N, Maury S, Rinaldi C, Brignolas F. 2006. Impact of drought and leaf development stage on enzymatic antioxidant system of two *Populus deltoides* × *nigra* clones. *Annals of Forest Science* 63: 323–327.
- Hano C, Addi M, Bensaddek L, Crônier D, Baltora-Rosset S, Doussot J, Maury S, Mesnard F, Chabbert B, Hawkins S. 2006. Differential accumulation of monolignol-derived compounds in elicited flax (*Linum usitatissimum*) cell suspension cultures. *Planta* 223: 975–989.
- Causevic A*, Gentil M-V*, Delaunay A, El Soud W, Garcia Z, Pannetier C, Brignolas F, Hagège D, Maury S. 2006. Relationship between DNA methylation and histone acetylation levels, cell redox and cell differentiation states in sugarbeet lines. *Planta* 224: 812–827. (co-premiers auteurs indiqués par * dans la version source)
- Gadzovska S, Maury S, Delaunay A, Spasenoski M, Joseph C, Hagège D. 2007. Jasmonic acid elicitation of *Hypericum perforatum* L. cell suspensions and effects on the production of phenylpropanoids and naphthodianthrone. *Plant Cell, Tissue and Organ Culture* 89: 1–13.
- Teyssier E*, Bernacchia G*, Maury S, How Kit A, Stammitti-Bert L, Rolin D, Gallusci P. 2008. Tissue-dependent variations of DNA methylation and endoreduplication levels during tomato fruit development and ripening. *Planta* 228: 391–399.
- Gourcilleau D, Bogeat-Triboulot M-B, Le Thiec D, Lafon-Placette C, Delaunay A, El-Soud W-A, Brignolas F, Maury S. 2010. DNA methylation and histone acetylation: genetic variations in hybrid poplars, impact of water deficit and relationships with productivity. *Annals of Forest Science* 67: 208 (1–10). doi:10.1051/forest/2009101.

- Maury S, Delaunay A, Mesnard F, Crônier D, Chabbert B, Geoffroy P, Legrand M. 2010. O-methyltransferase(s)-suppressed plants produce lower amounts of phenolic vir inducers and are less susceptible to *Agrobacterium tumefaciens* infection. *Planta* 232: 975–986. doi:10.1007/s00425-010-1230-x.
- Trap-Gentil M-V, Hébrard C, Lafon-Placette C, Delaunay A, Hagège D, Joseph C, Brignolas F, Lefebvre M, Barnes S, Maury S. 2011. Time course and amplitude of DNA methylation in the shoot apical meristem are critical points for bolting induction in sugar beet and bolting tolerance between genotypes. *Journal of Experimental Botany* 62: 2585–2597. doi:10.1093/jxb/erq433.
- Pavoković D, Omarszad O, Maury S, Joseph C, Delaunay A, Krsnik-Rasol M, Hagège D. 2011. Role for carbohydrate-metabolizing enzymes in sugar sensing and differentiation in sugar beet cell lines. *Food Technology and Biotechnology* 49: 435–446. (URL d'accès direct indiqué dans la version source.)
- Maury S*, Trap-Gentil M-V*, Hébrard C, Weyens G, Delaunay A, Lefebvre M, Barnes S, Joseph C. 2012. Genic DNA methylation remodelling during in vitro organogenesis: organ-specificity and conservation between parental lines of epialleles. *Physiologia Plantarum* 146: 321–335. doi:10.1111/j.1399-3054.2012.01634.x.
- Gadzovska S, Maury S, Delaunay A, Spasenoski M, Hagège D, Courtois D, Joseph C. 2012. The influence of salicylic acid elicitation of shoot, callus, and cell suspension cultures on production of naphthodianthrone and phenylpropanoids in *Hypericum perforatum* L. *Plant Cell, Tissue and Organ Culture* 109: 303–311. doi:10.1007/s11240-012-0248-0.
- Lafon-Placette C, Faivre-Rampant P, Delaunay A, Street N, Brignolas F, Maury S. 2013. Methylome of DNase I-sensitive chromatin in *Populus trichocarpa* shoot apical meristematic cells: a simplified approach revealing characteristics of gene-body DNA methylation in open chromatin state. *New Phytologist* 197: 416–430. doi:10.1111/nph.12026.
- Hébrard C, Trap-Gentil M-V, Lafon-Placette C, Delaunay A, Joseph C, Lefebvre M, Barnes S, Maury S. 2013. Identification of differentially methylated regions during vernalization revealed a role of RNA METHYLTRANSFERASE in bolting. *Journal of Experimental Botany* 64: 651–663. doi:10.1093/jxb/ers363.
- Bräutigam K, Vining K, Lafon-Placette C, Fossdal C-G, Mirouze M, Gutiérrez M-J, Fluch S, Fernández Fraga M, Guevara M-Á, Abarca D, Johnsen Ø, Maury S, Strauss S-H, Campbell M, Rohde A, Díaz-Sala C, Cervera M-T. 2013. Epigenetic regulation of adaptive response of forest tree species to the environment. *Ecology and Evolution* 3: 399–415. doi:10.1002/ece3.461.

- Zhu J, Shevchenko O, Ma C, Maury S, Freitag M, Strauss S-H. 2013. Poplars with a *PtDDM1*-RNAi transgene have reduced DNA methylation and show aberrant post-dormancy morphology. *Planta* 237: 1483–1493. doi:10.1007/s00425-013-1858-4.
- Teyssier C, Maury S, Beaufour M, Grondin C, Delaunay A, Le Metté C, Ader K, Cadene M, Label P, Lelu-Walter M-A. 2014. In search of markers for somatic embryo maturation in hybrid larch (*Larix × eurolepis*): global DNA methylation and proteomic analyses. *Physiologia Plantarum* 150: 271–291. doi:10.1111/ppl.12081.
- Tocquard K, Lafon-Placette C, Auguin D, Muries B, Bronner G, Lopez D, Fumanal B, Franchel J, Bourgerie S, Maury S, Label P, Julien J-L, Roeckel-Drevet P, Vénisse J-S. 2014. In silico study of wall-associated kinase family reveals large-scale genomic expansion potentially connected with functional diversification in *Populus*. *Tree Genetics & Genomes* 10: 1135–1147. doi:10.1007/s11295-014-0748-7.
- Gadzovska-Simic S, Tusevski O, Maury S, Delaunay A, Joseph C, Hagège D. 2014. Effects of polysaccharide elicitors on secondary metabolite production and antioxidant response in *Hypericum perforatum* L. shoot cultures. *The Scientific World Journal* 2014: 609649. doi:10.1155/2014/609649.
- Gadzovska-Simic S, Tusevski O, Maury S, Hano C, Delaunay A, Chabbert B, Lamblin F, Laine E, Joseph C, Hagège D. 2015. Fungal elicitor-mediated enhancement in phenylpropanoid and naphthodianthrone contents of *Hypericum perforatum* L. cell cultures. *Plant Cell, Tissue and Organ Culture* 123: 523–539. doi:10.1007/s11240-015-0762-y.
- Gadzovska-Simic S, Tusevski O, Maury S, Delaunay A, Laine E, Joseph C, Hagège D. 2015. Polysaccharide elicitors enhance phenylpropanoid and naphthodianthrone production in cell suspension cultures of *Hypericum perforatum*. *Plant Cell, Tissue and Organ Culture* 123: 143–155. doi:10.1007/s11240-015-0798-z.
- Plomion C, Bastien C, Bogeat-Triboulot M-B, Bouffier L, Dejardin A, Duplessis S, Fady B, Heuertz M, Le Gac A-L, Le Provost G, Legué V, Lelu-Walter M-A, Leplé J-C, Maury S, Morel A, Oddou-Muratorio S, Pilate G, Sanchez L, Scotti I, Scotti-Saintagne C, Segura V, Trontin J-F, Vacher C. 2016. Forest tree genomics: 10 achievements from the past 10 years and future prospects. *Annals of Forest Science* 73: 77–103. doi:10.1007/s13595-015-0488-3.
- Hébrard C, Peterson D-G, Willems G, Delaunay A, Jesson B, Lefebvre M, Barnes S, Maury S. 2016. Epigenomics and bolting tolerance in sugar beet genotypes. *Journal of Experimental Botany* 67: 207–225. doi:10.1093/jxb/erv449.

- Dugé de Bernonville T, Carqueijeiro I, Lanoue A, Lafontaine F, Sánchez Bel P, Liesecke F, Musset K, Oudin A, Glévarec G, Pichon O, Besseau S, Clastre M, St-Pierre B, Flors V, Maury S, Huguet E, O'Connor S-E, Courdavault V. 2017. Folivory elicits a strong defense reaction in *Catharanthus roseus*: metabolomic and transcriptomic analyses reveal distinct local and systemic responses. *Scientific Reports* 7: 40453. doi:10.1038/srep40453.
- Conde D, Le Gac A-L, Perales M, Dervinis C, Kirst M, Maury S, González-Melendi P, Allona I. 2017. Chilling-responsive DEMETER-LIKE DNA demethylase mediates in poplar bud break. *Plant, Cell & Environment* 40: 2236–2249. doi:10.1111/pce.13019.
- Lafon-Placette C, Le Gac A-L, Chauveau D, Segura V, Delaunay A, Lesage-Descauses M-C, Hummel I, Cohen D, Jesson B, Le Thiec D, Bogeat-Triboulot M-B, Brignolas F, Maury S. 2018. Changes in the epigenome and transcriptome of the poplar shoot apical meristem in response to water availability affect preferentially hormone pathways. *Journal of Experimental Botany* 69: 5271–5287. doi:10.1093/jxb/erx409.
- Le Gac A-L, Lafon-Placette C, Chauveau D, Segura V, Delaunay A, Fichot R, Marron N, Le Jan I, Berthelot A, Bodineau G, Bastien J-C, Brignolas F, Maury S. 2018. Winter-dormant shoot apical meristem in poplar trees shows environmental epigenetic memory. *Journal of Experimental Botany* 69: 4821–4837. doi:10.1093/jxb/ery271.
- Sow M-D, Segura V, Chamaillard S, Jorge V, Delaunay A, Lafon-Placette C, Fichot R, Faivre-Rampant P, Villar M, Brignolas F, Maury S. 2018. Narrow-sense heritability and Pst estimates of DNA methylation in three *Populus nigra* L. populations under contrasting water availability. *Tree Genetics & Genomes* 14: 78. <https://doi.org/10.1007/s11295-018-1293-6>.
- Sow M-D, Allona I, Ambroise C, Conde D, Fichot R, Gribkova S, Jorge V, Le-Provost G, Pâques L, Plomion C, Salse J, Sanchez-Rodriguez L, Segura V, Tost J, Maury S. 2018. Epigenetics in forest trees: state of the art and potential implications for breeding and management in a context of climate change. *Advances in Botanical Research* 88: 387–453. <https://doi.org/10.1016/bs.abr.2018.09.003>.
- Marin P*, Genitoni J*, Barloy D, Maury S, Gibert P, Ghalambor C, Vieira C. 2019. Biological invasion: the influence of the hidden side of the epi/genome. *Functional Ecology* 33: 1270–1282. doi:10.1111/1365-2435.13317.
- Maury S, Sow M-D, Le Gac A-L, Genitoni J, Lafon-Placette C, Mozgová I. 2019. Phytohormone and chromatin crosstalk: the missing link for developmental plasticity? *Frontiers in Plant Science* 10: 395. doi:10.3389/fpls.2019.00395.

- Le Gac A-L, Lafon-Placette C, Maury S. 2019. Developmental, genetic and environmental variations of global DNA methylation in the first leaves emerging from the shoot apical meristem in poplar trees. *Plant Signaling & Behavior* 14: 1596717. <https://doi.org/10.1080/15592324.2019.1596717>.
- Gourcilleau D, Mousset M, Latutrie M, Marin S, Delaunay A, Maury S, Pujol B. 2019. Assessing global DNA methylation changes associated with plasticity in seven highly inbred lines of snapdragon plants (*Antirrhinum majus*). *Genes* 10: 256. doi:10.3390/genes10040256.
- Genitoni J, Vassaux D, Delaunay A, Citerne S, Portillo Lemus L, Etienne M-P, Renault D, Stoeckel S, Barloy D, Maury S. 2020. Hypomethylation of the aquatic invasive plant, *Ludwigia grandiflora* subsp. *hexapetala* mimics the adaptive transition into the terrestrial morphotype. *Physiologia Plantarum* 168: 725–741. doi:10.1111/ppl.13162.
- Dugé de Bernonville T*, Maury S*, Delaunay A, Daviaud C, Chaparro C, Tost J, O'Connor S-E, Courdavault V. 2020. Developmental methylome of the medicinal plant *Catharanthus roseus* unravels the tissue-specific control of the monoterpene indole alkaloid pathway by DNA methylation. *International Journal of Molecular Sciences* 21: 6028. doi:10.3390/ijms21176028.
- Amaral J*, Ribeyre Z*, Vigneaud J*, Sow M-D, Fichot R, Messier C, Pinto G, Nolet P, Maury S. 2020. Advances and promises of epigenetics for forest trees. *Forests* 11: 976. doi:10.3390/f11090976. (Encyclopedia: <https://encyclopedia.pub/2761>)
- Mladenov V, Fotopoulos V, Kaiserli E, Karalija E, Maury S, Miroslav B, Segal N, Testillano P-S, Vassileva V, Pinto G, et al. 2021. Deciphering the epigenetic alphabet involved in transgenerational stress memory in crops. *International Journal of Molecular Sciences* 22: 7118. <https://doi.org/10.3390/ijms22137118>.
- Kakoulidou I, Avramidou E-V, Baránek M, Brunel-Muguet S, Farrona S, Johannes F, Kaiserli E, Lieberman-Lazarovich M, Martinelli F, Mladenov V, Testillano P-S, Vassileva V, Maury S. 2021. Epigenetics for crop improvement in times of global change. *Biology* 10: 766. <https://doi.org/10.3390/biology10080766>.
- Sow M-D, Le Gac A-L, Fichot R, Lanciano S, Delaunay A, Le Jan I, Lesage-Descauses M-C, Citerne S, Caius J, Brunaud V, Soubigou-Taconnat L, Cochard H, Segura V, Chaparro C, Grunau C, Daviaud C, Tost J, Brignolas F, Strauss S-H, Mirouze M, Maury S. 2021. RNAi suppression of DNA methylation affects the drought stress response and genome integrity in transgenic poplar. *New Phytologist* 232: 80–97. <https://doi.org/10.1111/nph.17555>
- Kong J, Garcia V, Zehraoui E, Stammitti L, Hilbert G, Renaud C, Maury S, Delaunay A, Cluzet S, Lecourieux F, et al. 2022. Zebularine, a DNA methylation inhibitor,

activates anthocyanin accumulation in grapevine cells. *Genes* 13: 1256. <https://doi.org/10.3390/genes13071256>.

- Dugé de Bernonville T, Daviaud C, Chaparro C, Tost J, Maury S. 2022. From methylome to integrative analysis of tissue specificity. In: Courdavault V, Besseau S (eds). *Catharanthus roseus*. Methods in Molecular Biology, vol. 2505. Humana, New York, NY. https://doi.org/10.1007/978-1-0716-2349-7_16.
- Vigneaud J, Kohler A, Sow M-D, Delaunay A, Fauchery L, Guinet F, Daviaud C, Barry K-W, Keymanesh K, Johnson J, Singan V, Grigoriev I-V, Fichot R, Conde D, Perales M, Tost J, Martin F, Allona I, Strauss S, Veneault-Fourrey C, Maury S. 2023. DNA hypomethylation of the host tree impairs interaction with mutualistic ectomycorrhizal fungus. *New Phytologist* 238: 2561–2577. doi:10.1111/nph.18734.
- Agius D-R, Kapazoglou A, Avramidou E, Baránek M, Carneros E, Caro E, Castiglione S, Cicatelli A, Radanovic A, Ebejer J-P, Gackowski D, Guarino F, Gulyás Á, Hídvégi N, Hoenicka H, Inácio V, Johannes F, Karalija E, Lieberman-Lazarovich M, Martinelli F, Maury S, Mladenov V, Morais-Cecílio L, Pečinka A, Tani E, Testillano P-S, Todorov D, Valledor L, Vassileva V. 2023. Exploring the crop epigenome: a comparison of DNA methylation profiling techniques. *Frontiers in Plant Science* 14: 1181039. doi:10.3389/fpls.2023.1181039.
- Rogier O, Chateigner A, Lesage-Descauses M-C, Mandin C, Brunaud V, Caius J, Soubigou-Taconnat L, Almeida-Falcon J, Bastien C, Benoit V, Bodineau G, Boizot N, Buret C, Charpentier J-P, Déjardin A, Delaunay A, Fichot R, Laine-Prade V, Laurans F, Le Jan I, Le Gac A-L, Maury S, Gebreselassie M-N, Poursat P, Ridel C, Sanchez L, Jorge V, Segura V. 2023. RNAseq-based variant dataset in a black poplar association panel. *BMC Research Notes* 16: 248. <https://doi.org/10.1186/s13104-023-06521>.
- Maury S. 2024. Epigenetics as a regulator of tree specialized metabolites in vitro production. *Forests* 15: 141. <https://doi.org/10.3390/f15010141>.
- Lesur I., Rogier O., Sow M. D., Boury C., Duplan A., Garnier A., Senhaji-Rachik A., Civan P., Daron J., Delaunay A., Duvaux L., Benoit V., Guichoux E., Le Provost G., Sanou E., Ambroise C., Plomion C., Salse J., Segura V., Tost J., Maury S. (2024). A strategy for studying epigenetic diversity in natural populations: proof of concept in poplar and oak. *Journal of Experimental Botany*, 75(10), erae266. <https://doi.org/10.1093/jxb/erae266>.
- Pujol, B.; Latutrie, M.; Luviano-Aparicio, N.; Mouginot, P.; Piquet, J.; Marin, S.; Maury, S. Experimental evidence for short term directional selection of epigenetic trait variation. *Peer Community Journal*, Volume 5 (2025), article no. e118. <https://doi.org/10.24072/pcjournal.583>

- Trontin, J.-F., Sow, M. D., Delaunay, A., Modesto, I., Teyssier, C., Reymond, I., Canlet, F., Boizot, N., Le Metté, C., Gibert, A., Chaparro, C., Daviaud, C., Tost, J., Miguel, C., Lelu-Walter, M.-A., Maury, S. (2025). *Epigenetic memory of temperature sensed during somatic embryo maturation in 2-yr-old maritime pine trees*. *Plant Physiology*, 197(2), kiae600. <https://doi.org/10.1093/plphys/kiae600>
- Brunel-Muguet S, Baránek M, Fragkostefanakis S, Sauvage C, Lieberman-Lazarovich M, Maury S, Kaiserli E, Segal N, Testillano P-S, Verdier J. 2025. Maternal environmental effects and climate-smart seeds: unlocking epigenetic inheritance for crop innovation in the seed industry. *The Plant Journal* 123: e70407. <https://doi.org/10.1111/tpj.70407>.
- Duplan A, Feng Y-Q, Laskar G, Cai B-D, Segura V, Delaunay A, Le Jan I, Daviaud C, Toumi A, Laurans F, Sow M-D, Rogier O, Poursat P, Duruflé H, Jorge V, Sanchez L, Cochard H, Allona I, Tost J, Fichot R, Maury S. 2025. Drought-induced epigenetic memory in the cambium of poplar trees persists and primes future stress responses. *bioRxiv* 2025.10.14.681991. <https://doi.org/10.1101/2025.10.14.681991>.
- Duplan A, Brandt S, Garnier A, Tost J, Sanchez L, Duvaux L, Maury S, Duruflé H. 2025. Imputation strategy for population DNA methylation sequencing data. *bioRxiv* 2025.03.21.644107. <https://doi.org/10.1101/2025.03.21.644107>.
- Genitoni J, Vassaux D, Renault D, Maury S, Barloy D. 2025. Adaptive strategies of the invasive aquatic plant *Ludwigia grandiflora* subsp. *hexapetala*: contrasting plasticity between aquatic and terrestrial morphotypes. *bioRxiv* 2025.08.27.672630. <https://doi.org/10.1101/2025.08.27.672630>.
- **Articles in national peer-reviewed journals:**
 - Maury S, Hébrard C, Trap-Gentil M-V, Causevic-Paric A, Delaunay A, Joseph C. 2014. De l'intérêt d'étudier la composante épigénétique dans le cadre de l'amélioration des plantes cultivées. *Le Sélectionneur Français* 65: 19–29. (revue nationale à comité de lecture)
 - Bastien J-C, Berthelot A, Brignolas F, Marron N, Maury S, Bodineau G, Gauvin J, Toillon J, Dalle E, Delaunay A, Le Jan I, Charnet F, Maine P, Merzeau D. 2015. Augmenter le niveau de production de biomasse des cultures ligneuses dédiées ou semi-dédiées. Principaux enseignements du projet SYLVABIOM. *Revue Forestière Française* 67(3): 249–262. doi:10.4267/2042/58175.
 - Vigneaud J, Maury S (2020) La plasticité développementale chez les plantes : une interaction entre hormones et épigénétique dans les cellules souches

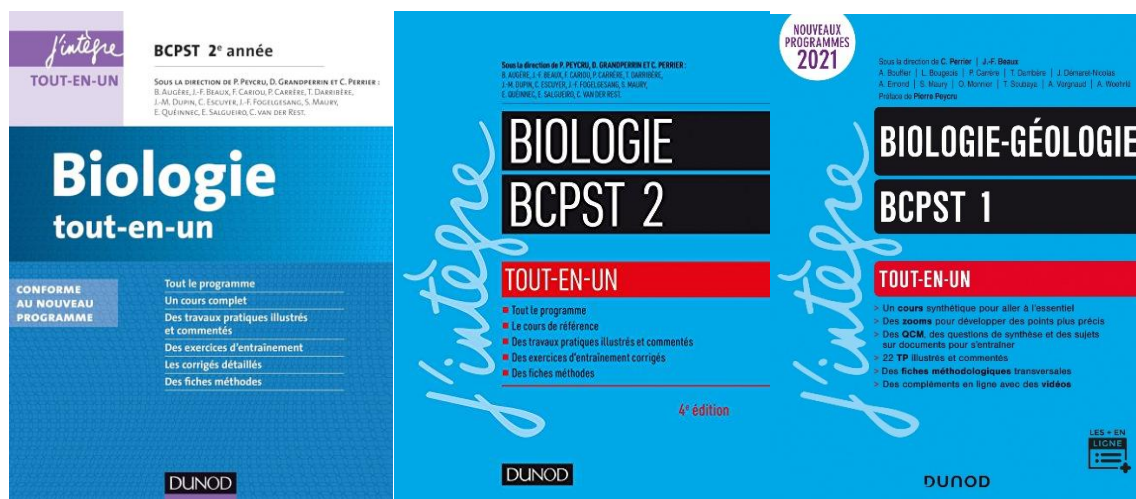
méristématiques. Biologie d'Aujourd'hui (revue de la société française de Biologie). <https://doi.org/10.1051/jbio/2020011>

- **Single-author books and edited volumes:**
- 3 livres de Biologie collection DUNOD : comme co-auteur

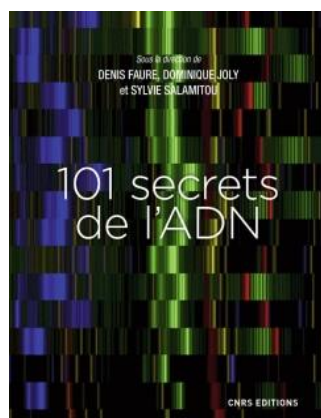
[Biologie-Géologie tout-en-un BCPST 1re anné](#)

Biologie BCPST 2 - Tout-en-un - 4e éd. [Biologie tout-en-un BCPST 2e année](#)

<http://www.dunod.com/sciences-et-techniques/sciences-fondamentales/sciences-de-la-vie-et-sante/classes-preparatoires-paces/biologie-tout-en-0>



- Sous la direction de Denis Faure, Dominique Joly, Sylvie Salamitou (2019). EAN : 9782271123237. <https://www.cnrseditions.fr/catalogue/biologie-et-sante/101-secrets-de-l-adn/>. Rédaction de l'article 53 du chapitre 4 intitulé Transmettre une réponse adaptative sans changer ses gènes : l'épigénétique.



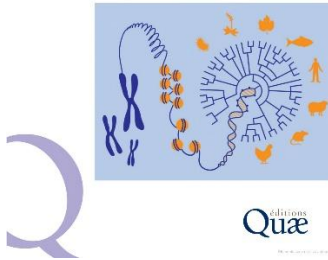
- Jammes H, Boudry P, Maury S (eds). 2024. *Épigénétique : mécanismes moléculaires, biologie du développement et réponses à l'environnement*. Éditions Quæ, Versailles. <https://doi.org/10.35690/978-2-7592-3770-8>.

Synthèses

ÉPIGÉNÉTIQUE

Mécanismes moléculaires,
biologie du développement
et réponses à l'environnement

Hélène Jammes, Pierre Boudry, Stéphane Maury, coord.



Sélection officielle du Prix Roberval 2025

- Grunau C, Maury S. 2025. *Epigenetics in Ecology and Evolution*. ISTE Ltd, London. <https://doi.org/10.1002/9781394372683>.



Versions en français et anglais

- **Book chapters:**
- Gentil M-V, Maury S. 2007. Characterization of epigenetic biomarkers using new molecular approaches. In: Varshney RK, Tuberosa R (eds). *Genomics-Assisted Crop Improvement: Genomics Approaches and Platforms*, vol. 1. Springer, Dordrecht, pp. 351–370. Disponible sur: <http://www.springer.com/life+sciences/plant+sciences/book/978-1-4020-6294-0>.

- Maury, S. & Plomion, C. (2025). *Chapter 8. Epigenetics and climate change: the example of forest ecosystems*. In C. Grunau & S. Maury (Eds.), *Epigenetics in Ecology and Evolution* (pp.207-240). ISTE Group / Wiley. DOI : 10.1002/9781394372683
- **Published proceedings of international conferences, congresses and symposia:**
 - Danchin E, Petit O, Aubret F, Auffray J-C, Blanchet S, Charmantier A, Cucchi T, Gibert P, Grunau C, Hochberg M, Maury S, Mitta G, Montchamp C, Petit R, Pujol B, Raymond M, Rousset F, Roux F, Thierry B, Till-Bottraud I, Tresset A, Vieira C. 2012. Hérité génétique et non génétique, vers une généralisation de la théorie de l'évolution. *Prospective de l'Institut Écologie et Environnement du CNRS*: 83–88.
 - Merlin F, Maury S, Grunau C. 2017. L'épigénétique dans toutes ses dimensions. *Prospective de l'Institut Écologie et Environnement du CNRS*. Disponible sur: https://www.researchgate.net/publication/320101733_L'epigenetique_dans_toutes_ses_dimensions
 - Achour Z, Archipiano M, Barneche F, Baurens C, Beckert M, Ben C, et al. 2017. Epigenetics in plant breeding. *Article de positionnement du Groupement d'intérêt scientifique Biotechnologies vertes et de l'Alliance nationale de recherche pour l'environnement*. Disponible sur: <http://www.gisbiotechnologiesvertes.com/fr/publications/position-paperepigenetics-in-plant-breeding>
 - Maury S, et al. 2019. Epigenetics in trees: a source of plasticity and adaptation in the context of climate change. In: Bonga J-M, Park Y-S, Trontin J-F (eds). *Proceedings of the 5th International Conference of the IUFRO Unit 2.09.02 on "Clonal Trees in the Bioeconomy Age: Opportunities and Challenges."* 10–15 September 2018, Coimbra, Portugal. Disponible sur: <https://www.iufro.org/science/divisions/division-2/20000/20900/20902/publications/>
 -
- **Invited lectures during the period 2012–2025 (since my appointment as Full Professor and PI; not an exhaustive list, only the most significant):**
 - Maury S. *L'épigénétique chez les plantes : de son importance dans le développement et la réponse aux variations de l'environnement à son utilisation*

possible en amélioration. Société Limagrain, Chappes (France), 8 janvier 2013 — Conférencier invité.

- Maury S. *Impact of the environment on poplar phenotypic plasticity: role of DNA methylation in open chromatin*. Colloque Épigénétique en Écologie et Évolution, Gif-sur-Yvette (France), 3–4 décembre 2013 — Communication orale.
- Maury S. *Effet de l'environnement sur la plasticité phénotypique du peuplier : rôle de l'épigénétique et de la méthylation de l'ADN*. CNRS, Toulouse (France), 7 avril 2014 — Conférencier invité.
- Maury S. *De l'intérêt d'étudier la composante épigénétique dans le cadre de l'amélioration des plantes cultivées*. Assemblée Générale ASF (Association des Semenciers Français), Versailles (France), 3–4 décembre 2014 — Orateur invité.
- Maury S. *Plant response to abiotic stress: how epigenetic can participate?* 8th SPPS PhD Students Conference – The Molecular Life of Plants: Theory and Application, Uppsala (Suède), 16–19 juin 2014 — Invited speaker.
- Maury S. *From the discovery of epigenetic control of flowering in Arabidopsis to the development of epigenetic biomarkers in sugar beet*. Translational Biology in Agriculture and Medicine, Clermont-Ferrand (France), 30–31 octobre 2014 — Orateur invité.
- Maury S. *Epigenome dynamics in forest trees: How DNA methylation can participate to poplar phenotypic plasticity in response to variations in water availability?* 3rd Forest Genomics Meeting: Regulation of Genome Expression Dynamics in Forest Trees, Oeiras (Portugal), 3 décembre 2014 — Conférencier invité.
- Maury S. *Épigénétique et phénotype : quels impacts en amélioration des plantes ?* Journée Épigénétique du Rendez-vous de l'innovation, Angers (France), 2 juillet 2015 — Orateur invité.
- Maury S. *Épigénétique et épigénomique : exemples dans l'amélioration de la betterave sucrière et du peuplier*. Centre NESTLÉ, Tours (France), 23 septembre 2015 — Conférencier invité.
- Maury S. *Épigénomique et contrainte abiotique : exemples dans l'amélioration variétale*. GIS BV – Prise en compte des processus épigénétiques en amélioration variétale, Paris (France), 9–10 novembre 2015 — Orateur invité & co-organisateur.
- Maury S. *Tree epigenomics*. PurpleWalls Symposium on Woody Plant Genomics, Poznań (Pologne), 9 septembre 2016 — Conférencier invité.

- Maury S. *Towards a role of DNA methylation in tree phenotypic plasticity. International Conference on Ecological Sciences*, Marseille (France), 24–26 octobre 2016 — Communication orale.
- Maury S. *Plasticité phénotypique : quel rôle pour la méthylation de l'ADN ?* Agrocampus Ouest, Rennes (France), 12 juin 2017 — Conférencier invité.
- Maury S. *Quel intérêt d'étudier les mécanismes épigénétiques chez les plantes ?* Conseil scientifique de l'Environnement Nord-Pas-de-Calais, Lille (France), 13 octobre 2017 — Conférence invitée.
- Maury S. *État des lieux de l'épigénétique en amélioration végétale et perspectives. Journées Adebitech – L'épigénétique dans la réponse du vivant aux facteurs environnementaux*, Paris (France), 13–14 mars 2018 — Conférencier invité.
- Maury S. *Role of epigenetic in tree phenotypic plasticity in a context of climate changes. International Conference on Plant Science and Molecular Biology*, Paris (France), 22–23 octobre 2018 — Keynote speaker.
- Maury S. *Quand l'épigénétique s'invite chez les plantes : de l'adaptation à l'environnement aux perspectives en amélioration. Académie d'Agriculture de France – Séance publique : Rôle de l'épigénétique chez l'animal, le végétal et la bactérie*, Paris (France), 14 novembre 2018 — Orateur invité.
- Maury S. *Epigenetics in forest trees: role in plasticity, adaptation and potential implications for breeding in a context of climate change (EPITREE). IUFRO Tree Biotechnology Meeting – Forests, Technology & Society*, Raleigh (USA), 23–28 juin 2019 — Young keynote speaker.
- Maury S. *Epigenetics in forest trees: role in plasticity, adaptation and potential implications for breeding in Salicaceae (EPITREE). Symposium on Willow Genetics and Genomics*, Poznań (Pologne), 5 novembre 2019 — Invited speaker.
- Maury S. *Comment l'épigénétique peut jouer un rôle sur la plasticité phénotypique chez le peuplier. Université de Poitiers (France)*, 16 janvier 2020 — Conférencier invité.
- Maury S. *Plasticité phénotypique : un phénomène remarquable chez les plantes et le rôle de l'épigénétique. Société de Biologie – Séance "Plasticité phénotypique"*, Institut Curie, Paris (France), 21 janvier 2020 — Orateur invité.
- Maury S. *Épigénétique et plasticité phénotypique chez les arbres dans un contexte de changement climatique : retour d'expérience. Institut des Sciences de la Forêt Tempérée (ISFORT), Québec (Canada)*, 10 mars 2021 — Webconférence invitée.
→ [Lien de la conférence](#)

- Maury S. *DNA methylation and drought stress in poplar. EPI-CATCH Conference (COST Action CA19125)*, 12–14 juillet 2021 (en ligne) — Responsable de session “DNA methylation, transposable elements and RNA-directed mechanisms” + orateur.
- Maury S. *Epigenetics in woody plants. Training School EPI-CATCH*, INRAE Val de Loire, Ardon (France), 2022 — Formateur / Trainer (avec G. Pinto).
- Maury S. *Epigenomics in plant populations. 3rd EPI-CATCH Conference – Epigenetic Mechanisms of Crop Adaptation to Climate Change*, Sofia (Bulgarie), 30 mai–1er juin 2023 — Membre du comité d’organisation & keynote speaker.
- Maury S. *Epigenetics, plasticity, and adaptation in forest trees. INUPRAG Symposium on Integrative Plant Biology*, Umeå (Suède), février 2023 — Invited speaker.
- Maury S. *Epigenetics in woody plants. Workshop EPI-CATCH (COST Action CA19125)*, INRAE Val de Loire, Ardon (France), 28–29 septembre 2023 — Formateur / animateur.
- Maury S. *Epigenetic variation in tree evolution: a case study in black poplar (Populus nigra). EPIPLANT/SEB 2024*, Clermont-Ferrand (France), 2024 — Poster session.
- Maury S. *Epigenetics meets innovation. Conference on Epigenetics and Innovation*, Jurmala (Lettonie), 22–24 avril 2024 — Orateur invité.
- Maury S. *Epigenetic and phenotypic plasticity in poplar trees: from forward and reverse epigenetics to predictive models using deep learning. PhenPlasPlants 2025 – International Conference on Phenotypic Plasticity in Plants*, Potsdam (Allemagne), 2025 — Conférencier invité / keynote.

- **Press & Outreach — Epigenetics and trees (S. MAURY)**
Media, press and institutional communications

- **INRAE (2018)** — *Travaux pionniers sur la mémoire de la sécheresse chez les arbres.* Communiqué de presse. Disponible sur : <https://www.inrae.fr/actualites/travaux-pionniers-memoire-secheresse-arbres> (publié 19 sept. 2018) — INRAE
- **Université d’Orléans (2024)** — *L’épigénétique à l’honneur.* Web-article. Disponible sur : <https://www.univ-orleans.fr/fr/p2e/zoom-sur/lepigenetique-lhonneur> (consulté ce jour) — Université d’Orléans

- **Radio Campus Tours – La Méridienne – INRAE – Stéphane Maury, EPITREE (2021)** — Podcast. Disponible sur : <https://www.radiocampustours.com/emissions/la-meridienne-inrae-stephane-maury-projet-epitree/> (consulté ce jour) — [radiocampustours.com](https://www.radiocampustours.com)
- **Canal U (2023)** — *Changement climatique, arbres et épigénétique*. Vidéo. Disponible sur : <https://www.canal-u.tv/chaines/canal-ued/changement-climatique-arbres-et-epigenetique> (consulté ce jour) — *Canal-U*
- **INRAE (2021)** — *L'épigénétique, un nouveau levier...* Communiqué de presse. Disponible sur : <https://www.inrae.fr/actualites/lepigenetique-nouveau-levier-ameliorer-tolerance-secheresse-arbres> — *INRAE*
- **Université de Lille (2023)**. *Quel intérêt d'étudier les mécanismes épigénétiques chez les plantes ?* Entretien avec S. Maury (Université d'Orléans / INRAE) dans le cadre des conférences de la WebTV de l'Université de Lille. Disponible sur : <https://webtv.univ-lille.fr/video/9286/quel-interet-d%E2%80%99etudier-les-mecanismes-epigenetiques-chez-les-plantes->
- **MOOC FUN (2023)** — *Les arbres : de la forêt à la ville, du génome à l'écosystème*. MOOC coordonné par INRAE, avec la participation de S. Maury (Université d'Orléans / INRAE).
<https://www.fun-mooc.fr/fr/cours/arbres/>
Séminaire : *Épigénétique et arbres — Complément au MOOC “Les arbres”*.
Présentation vidéo de S. Maury. YouTube (2023)
<https://www.youtube.com/watch?v=mRNmfWTGaZI>

La République du Centre (2024). *Peut-on améliorer la tolérance des arbres face au changement climatique ? La découverte inédite de l'Université d'Orléans*. Article de vulgarisation présentant les travaux de l'Université d'Orléans et de l'INRAE sur la mémoire épigénétique du pin maritime.

Publié le 20 novembre 2024.

Disponible sur : https://www.larep.fr/orleans-45000/actualites/peut-on-ameliorer-la-tolerance-des-arbres-face-au-changement-climatique-la-decouverte-inedite-de-l-universite-d-orleans_14001301/

Végépolys Valley (2019). *Webinaire – Épigénétique : avancées de la recherche et prise en main par les sélectionneurs*. Intervention de S. Maury (Université d'Orléans / INRAE) lors du webinaire professionnel organisé par le pôle de compétitivité Végépolys Valley, le 7 juin 2019.

Disponible sur : <https://www.vegepolys-valley.eu/agenda/15668-webinaire-epigenetique-avancees-de-la-recherche-et-prise-en-main-par-les-selectionneurs.html>

Végépolys Valley (2025). *Webinaire – Épigénétique : avancées de la recherche et prise en main par les sélectionneurs.* Intervention de S. Maury (Université d'Orléans / INRAE) dans le cadre du webinaire professionnel du pôle de compétitivité Végépolys Valley, le 20 juin 2025 (visioconférence).

Disponible sur : <https://www.vegepolys-valley.eu/agenda/15668-webinaire-epigenetique-avancees-de-la-recherche-et-prise-en-main-par-les-selectionneurs.html>

Épigénétique et mémoire chez le pin maritime

INRAE (2024) — *Les graines de pin maritime gardent en mémoire les changements de température.*

Publication associée : *Plant Physiology* (Trontin J-F et al., 2024, <https://doi.org/10.1093/plphys/kiae600>)

[Lire sur inrae.fr](#)

Libération (Olivier Monod, 21 novembre 2024) — *Sylviculture : graine échaudée, futur pin renforcé.*

[Lire sur liberation.fr](#)

France Inter – La Terre au carré (Mathieu Vidard & Olivier Monod, 21 novembre 2024) — *L'actu du jeudi 21 novembre 2024.*

[Écouter sur radiofrance.fr](#)

Sciences et Avenir (Loïc Chauveau, 22 novembre 2024) — *Découverte : les graines de pin maritime ont de la mémoire.*

[Lire sur sciencesetavenir.fr](#)

Science & Vie (Romain Fouchard, 3 août 2021) — *Sécheresse : comprendre la réponse des arbres grâce à l'épigénétique.*

Présentation des recherches menées à l'Université d'Orléans et à l'INRAE sur la réponse épigénétique du peuplier face au stress hydrique.

[Lire sur science-et-vie.com](#)

Epsilon (Jean-Baptiste Veyrieras, juillet 2021) — *Un arbre n'est pas un individu, mais une colonie.*

Dossier de vulgarisation sur le mosaïcisme génétique et épigénétique des arbres. Citation de S. Maury : « La plasticité génétique des arbres est un atout face au changement climatique. »

<https://www.epsilon.com/tous-les-numeros/n1/>

Épigénétique et symbiose arbre–champignon

INRAE (2023) — *Symbiose arbres-champignons : le rôle clé de l'épigénétique*. Publication associée : *New Phytologist* (Vigneaud J et al., 2023, <https://doi.org/10.1111/nph.18734>)
<https://www.inrae.fr/actualites/symbiose-arbres-champignons-decouverte-du-role-lepigenetique>

Pour la Science (Isabelle Bellin, mai 2023) — *L'épigénétique se mêle de la symbiose entre les arbres et les champignons*. Article du numéro 547 vulgarisant les travaux du consortium INRAE-Orléans / Lorraine.
<https://www.pourlascience.fr/sd/biologie/l-epigenetique-se-mele-de-la-symbiose-entre-les-arbres-et-les-champignons-25008.php>

APBG Nantes (2023). Conférence – L'épigénétique et la symbiose entre les arbres et les champignons. Intervention de S. Maury, Université d'Orléans / INRAE, dans le cadre des conférences de l'Association des Professeurs de Biologie et Géologie (APBG), 13 décembre 2023.
Disponible sur : <https://nantes.apbg.org/2023/10/21/13-decembre-2023-conference-lepigenetique-et-la-symbiose-entre-les-arbres-et-les-champignons/>

Distinctions

Prix Roberval 2025 (sélection officielle) — *Épigénétique : mécanismes moléculaires, biologie du développement et réponses à l'environnement* (Jammes H., Boudry P. & Maury S., édés, Éditions Quae, 2024).
Catégorie : Enseignement supérieur.
[Communiqué officiel du Prix Roberval](#)

Section 6 — Direction de thèses (13)

PhD supervision (13)

Adisa Causevic — Joint PhD France–Bosnia (50/50)

2001 – 24 January 2005

Supervision share: 50% (co-supervision Prof. Daniel Hagège, 50%)

Thesis title: Comparative study of several parameters of epigenetic control in relation to the development of sugar beet lines.

Current position: Full Professor, University of Sarajevo (Bosnia).

Main publications:

- Plant Physiology and Biochemistry 43, 681–691 (2005)
- Planta 224, 812–827 (2006)
- Le Sélectionneur Français 65, 19–29 (2014)

Sonja Gadzovska — Joint PhD France–Macedonia (50/50)

2001 – 24 March 2005

Supervision share: 25% (co-supervision C. Joseph 50%, D. Hagège 25%)

Thesis title: Production of secondary metabolites by cell and tissue cultures of *Hypericum perforatum* L.: effects of various exogenous factors.

Current position: Full Professor, University of Skopje (Macedonia).

Main publications:

- Plant Physiology and Biochemistry 43, 591–601 (2005)
- Plant Cell, Tissue and Organ Culture 89, 1–13 (2007, 2012, 2015a, 2015b)
- The Scientific World Journal (2014)

Marie-Véronique Gentil (married name Trap) — PhD

Oct. 2005 – 27 Jan. 2009

Supervision share: 50% (co-supervision D. Hagège)

Thesis title: Epigenetic control of bolting risk in sugar beet: characterization of epialleles associated with bolting sensitivity and perspectives for selection tests.

Current position: Postdoc, INRA Rennes, then teacher.

Main publications:

- Planta (2006)
- Genomics-Assisted Crop Improvement (Springer, 2007, chap. 16)
- Journal of Experimental Botany (2011, 2013)
- Le Sélectionneur Français 65, 19–29 (2014)

Claire Hébrard — PhD

Oct. 2008 – 18 Dec. 2012

Supervision share: 100%

Thesis title: Search and screening of epigenetic markers for marker-assisted selection in sugar beet: bolting sensitivity and annuality.

Current position: Postdoc in Reims, then teacher.

Main publications:

- Journal of Experimental Botany (2011, 2013, 2016)
- Le Sélectionneur Français (2014)

Clément Lafon-Placette — PhD

Oct. 2008 – 21 Dec. 2012

Supervision share: 50% (co-supervision F. Brignolas)

Thesis title: Study of epigenetic markers in the selection of productive poplar genotypes with efficient water use.

Current position: Postdoc (Sweden), then Associate Professor, University of Prague (since 2018).

Main publications:

- Annals of Forest Science (2010)

- Journal of Experimental Botany (2011, 2013, 2018a, 2018b)
- New Phytologist (2013)
- Tree Genetics & Genomes (2014, 2018)
- Frontiers in Plant Science (2019)
- Plant Signaling & Behavior (2019)

Anne-Laure Le Gac — PhD

Oct. 2013 – 23 June 2017

Supervision share: 50% (co-supervision F. Brignolas)

Thesis title: DNA methylation and phenotypic plasticity in response to water availability in poplar.

Current position: Postdoc in Germany → Agrocampus Ouest Rennes (2020) → Bioinformatics engineer, Institut Curie (Paris).

Main publications:

- Annals of Forest Science (2016)
- Plant, Cell & Environment (2017)
- Journal of Experimental Botany (2018)
- Frontiers in Plant Science (2019)
- Plant Signaling & Behavior (2019)

Mamadou Dia Sow — PhD

Oct. 2016 – 17 Dec. 2019

Supervision share: 100%

Thesis title: Functional role of DNA methylation in the response of poplar to variations in water availability.

Current position: Postdoc, University of Clermont-Ferrand (since 2020).

Main publications:

- Tree Genetics & Genomes (2018)
- Advances in Botanical Research (2018)

- Frontiers in Plant Science (2019)
- Forests (2020)
- New Phytologist (2021)
- Sow et al. 2023 (bioRxiv)
- Plant Physiology (2025)

Julien Génitoni — PhD

Oct. 2016 – 19 Dec. 2019

Supervision share: 50% (co-supervision D. Barloy, Agro Rennes)

Thesis title: Acclimation of the invasive aquatic species *Ludwigia grandiflora* to terrestrial environments: physiological and epigenetic approaches.

Current position: Scientific facilitator, Angers.

Main publications:

- Functional Ecology (2019)
- Frontiers in Plant Science (2019)
- Physiologia Plantarum (2020)
- Genitoni et al. (bioRxiv 2025)

Julien Vigneaud — PhD (not completed)

Oct. 2019 – early termination for health reasons 2022

Supervision share: 50% (co-supervision R. Fichot)

Thesis title: Role of epigenetics in phenotypic plasticity and adaptation of poplar in a context of climate change.

Status: PhD interrupted for medical reasons.

Main publications:

- Biologie d'Aujourd'hui (2020)
- Forests (2020)
- New Phytologist (2023)

Alexandre Duplan — PhD (ongoing)

Oct. 2022 – Dec. 2025 (planned)

Supervision share: 50% (co-supervision L. Sanchez 30%, co-supervision H. Duruflé 20%, INRAE Orléans)

Thesis title: Epigenetic memory of drought stress in the cambium of poplar: persistence and effects on future responses.

Main publications:

- Journal of Experimental Botany (2024)
- bioRxiv 2025a and 2025b

Raquel Sampaio Alves dos Santos — PhD (FCT)

2022 – planned 2026

Supervision share: co-supervision with C. Miguel and V. Inácio (University of Lisbon, Portugal)

Thesis title: DNA methylation role in the periderm barrier formation.

Status: ongoing (University of Lisbon, Portugal).

Ana Clara Brito Ferreira Thomas — PhD (FCT)

2025 – planned 2029

Supervision share: co-supervision with C. Miguel and V. Inácio (University of Lisbon, Portugal)

Thesis title: Driving potato heat stress tolerance by priming: the impact of DNA methylation.

Status: FCT fellowship in preparation (Portugal).

Thomas Wacquet — PhD

2025 – planned 2028

Supervision share: 40% (co-supervision M. Emily, Agro Rennes 30%; co-supervision H. Duruflé, INRAE Orléans 30%)

Thesis title: Machine learning and epigenotyping: a new lever for improving phenotype prediction in plants in an agro-ecological context.

Status: PhD grant (PEPR Agroécologie et numérique, ADAAPT project) in the start-up phase.

International supervision: various doctoral internships (Prague, Lisbon, Sfax, Pisa) and two joint Portugal–France PhD co-supervisions (see above).

Postdoc (INRAE ECODIV department, 18 months 2024–2025): Dr Shannon Brant, “The role of epigenetics in the biological adaptation of forest trees to climate change” (related to ANR EPITREE; main supervisor Ludovic Duvaux, INRAE Bordeaux, co-supervisor Stéphane Maury).