History of French-Hungarian collaboration as part of my life

from 1989-present

Éva Kondorosi

Biological Research Centre of the Hungarian Academy of Sciences

French-Hungarian Scientific Research Forum

Budapest, Sept. 28, 2018.

Major pillars of our FR-HU collaboration

1989. Creation of the CNRS Plant Science Institute (ISV)
in the Gif-sur-Yvette CNRS campus

1990. **Jumelage** program between the CNRS and the Hungarian Academy of Sciences (ISV and BRC)

2007. Creation of the BAYGEN Institute in Szeged

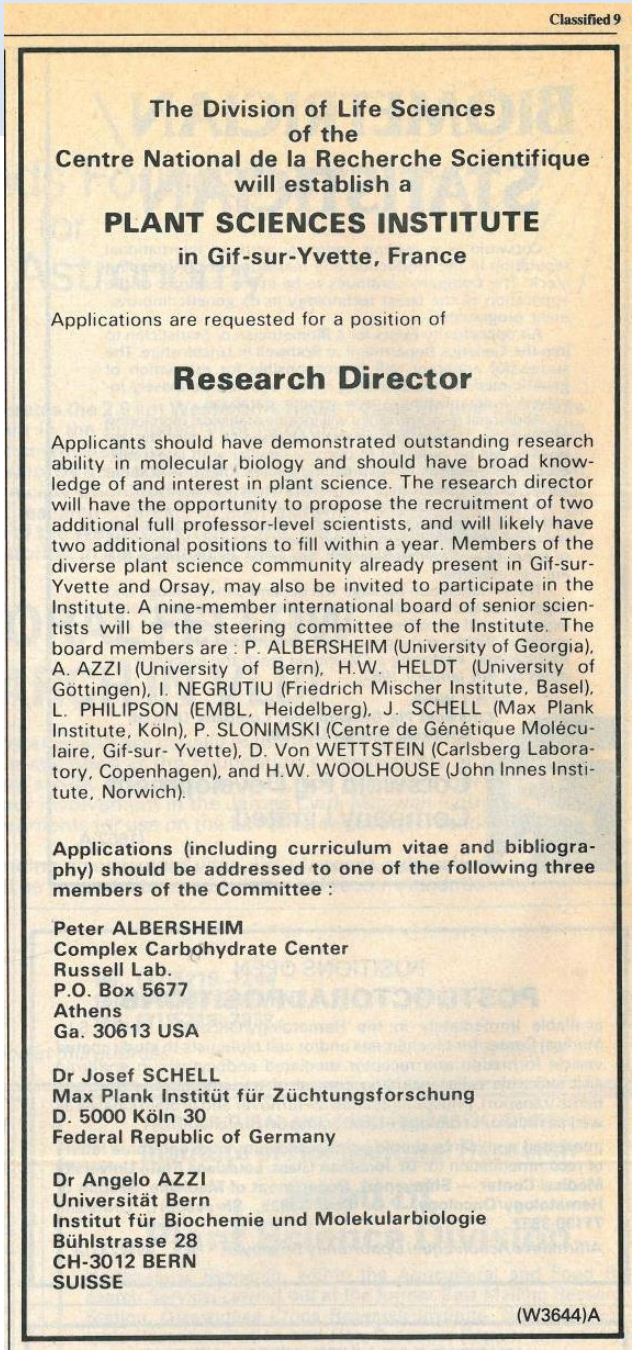
25 years of Balaton & TÉT programs

From Phytotron to ISV

Jacques Demailles
CNRS
Life Science Division

1987 summer

•Negotiation in Budapest with Adam Kondorosi
•with the Hungarian Academy of Sciences:
Agreement on the CNRS – HAS „Jumelage" program



Classified 9

The Division of Life Sciences
of the
Centre National de la Recherche Scientifique
will establish a

PLANT SCIENCES INSTITUTE
in Gif-sur-Yvette, France

Applications are requested for a position of

Research Director

Applicants should have demonstrated outstanding research ability in molecular biology and should have broad knowledge of and interest in plant science. The research director will have the opportunity to propose the recruitment of two additional full professor-level scientists, and will likely have two additional positions to fill within a year. Members of the diverse plant science community already present in Gif-sur-Yvette and Orsay, may also be invited to participate in the Institute. A nine-member international board of senior scientists will be the steering committee of the Institute. The board members are : P. ALBERSHEIM (University of Georgia), A. AZZI (University of Bern), H.W. HELDT (University of Göttingen), I. NEGRUTIU (Friedrich Mischer Institute, Basel), L. PHILIPSON (EMBL, Heidelberg), J. SCHELL (Max Plank Institute, Köln), P. SLONIMSKI (Centre de Génétique Moléculaire, Gif-sur- Yvette), D. Von WETTSTEIN (Carlsberg Laboratory, Copenhagen), and H.W. WOOLHOUSE (John Innes Institute, Norwich).

Applications (including curriculum vitae and bibliography) should be addressed to one of the following three members of the Committee :

Peter ALBERSHEIM
Complex Carbohydrate Center
Russell Lab.
P.O. Box 5677
Athens
Ga. 30613 USA

Dr Josef SCHELL
Max Plank Institüt für Züchtungsforschung
D. 5000 Köln 30
Federal Republic of Germany

Dr Angelo AZZI
Universität Bern
Institut für Biochemie und Molekularbiologie
Bühlstrasse 28
CH-3012 BERN
SUISSE

(W3644)A

From Phytotron to ISV: a short history of time

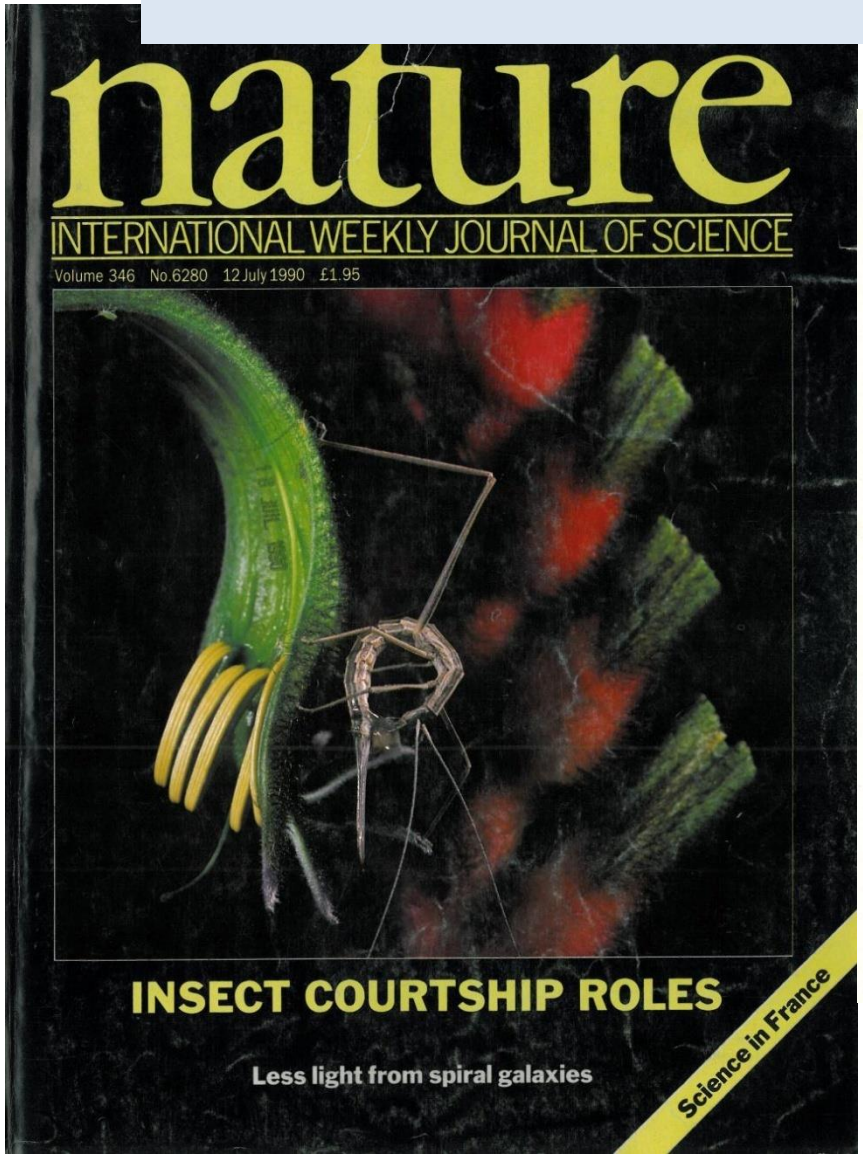
Between autumn 1987 and spring 1988 intensive discussions and negotiations with the CNRS about building and budget

Adam Kondorosi
Jacques Tempé
Bruno Gronenborn
Eva Kondorosi

By the end of **March 1988 Adam Kondorosi accepted the position as director of the ISV**

After the summer holidays of 1988 the construction of the ISV within the completely demolished parts of the Phytotron began

From Phytotron to ISV: a short history of time



PLANT SCIENCE

Hungarian sowing seeds

THE Institut des Sciences Vegétales at Gif-sur-Yvette differs from others in the park in that it is brand new and that its director, Adam Kondorosi, is newly arrived, with his wife and co-worker, from Hungary.

The refurbished laboratory is that previously occupied by the teams who danced attendance on Gif's giant phytotrons, which were in the 1960s proof of CNRS's promise to botanists that they are deserving of large equipment as are nuclear physicists. The phytotrons have now been dismatled and the laboratory disbanded.

Kondorosi has been commuting between Gif and Szeged in Hungary for the past 18 months, while recruiting people for the laboratory. His appearence, more or less permanently, in this Paris suburb justifies earlier fears in Hungary that liberalization would entail the loss of able people (see *Nature* **344**, 611; 12 April 1990).

Kondorosi says that he is enjoying himself enormously, but that whether he will stay for good depends as much on his wife's inclinations as his own. Meanwhile, he says that he has continuing responsibilities at Szeged, mostly for the continuation of his research with graduate students, so that he will have to make occasional visits. CNRS seems compliant.

For the rest, Kondorosi's tale is an illustration of how CNRS (in this case with some help from INRA) sets about founding a new institute. The impetus was the conviction that the molecular and cell biology of plants would have important applications in agriculture. An international committee spent some months head-hunting for a director until it found Kondorosi (he rattles off the names of those who turned down the job). Now the objective is to recruit a team of people, perhaps internationally, to staff the five research groups whose work will stamp the laboratory's programme (and whose heads are already in place). The hope is to build up to between 60 and 80 people in four years.

One distinctive feature of the programme is that external collaboration is to be built in from the outset. Kondorosi says there are already agreements with the Max-Planck Institute at Köln and the department of molecular biology at Rome, not to mention his old institute in Hungary. He is also planning to work closely with the complementary CNRS institute at Toulouse, and is hoping for further support from the European Communities and from the European Molecular Biology Organization.

Kondorosi's own field is the study of how the symbiosis of rhizobia and plant roots is reflected in and mediated by the reciprocal exchange of chemical signals between them, which is one leg of the institute's programme. Another group will aim at similar understanding by more classical studies of the hairy-root syndrome (a variant of crown gall disease). There are also groups concerned with plant cell signalling (by means of auxin), the mechanism of damage by plant viruses and the molecular genetics of *Arabidopsis* — the eukaryotic plant with the smallest genome so far recognized.

Like other up-and-coming CNRS laboratories, the new plant sciences institute is already embarking on graduate education. Five or six students seeking the DEA diploma (a pre-PhD qualification — see page 122) have already been accepted for next year. Kondorosi expects that university relations will be simplified because two of his group leaders are also university professors.

But will there be enough teachers for them? Kondorosi says he has already advertised 18 vacant positions at the institute. There can hardly be a quicker way for someone from Eastern Europe to learn the ways of the competitive West than he has chosen. □

by July 1990 the ISV and its director Adam Kondorosi had already made their mark on the international science scene

JUMELAGE (1990-2002)

between the

Institut des Sciences Végétales CNRS UPR040/

Institut des Sciences du Végétal CNRS UPR2355

Gif-sur-Yvette, France

and the

Biological Research Centre of the Hungarian Academy of Sciences

Szeged, Hungary

Objectives of the Jumelage:

- to carry out complementary and multidisciplinary experiments on well-defined scientific projects
- high quality scientific publications in top international journals
- to train young scientists
- to promote mobility of scientists between the French and Hungarian institutes
- to extend the collaboration to other European laboratories (both from East and West),

Coordinator: Adam KONDOROSI

Collaborative projects and results in **Jumelage**

Molecular genetic analysis of the *Medicago-Rhizobium* interactions

Rhizobium-legume symbiosis

Cell cycle

Common FR-HU publications : 58

43 in refereed journals, e.g.:

P.N.A.S.	1
EMBO J.	4
Plant Cell	3
Plant Physiol.	3
Mol. Gen. Genet.	6
Plant Mol. Biol..	5
Mol. Microbiol.	5
MPMI	7

1 patent

Education/Research training:

Hungarian students/postdocs at ISV:

PhD students: 11

Post docs: 17

Out of 11 Hungarian PhDs three were under joint supervision of the collaborating partners (co-tutelle).

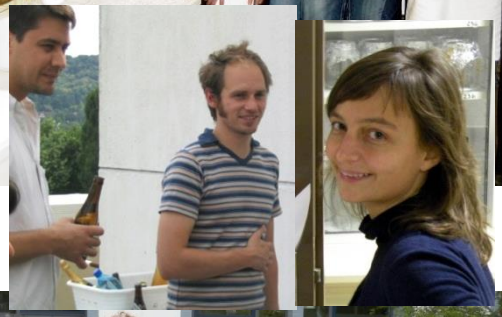
At the ISV, 7 French PhDs and 6 DEAs were part of the Jumelage.

From France to Hungary: 15 scientists

Rhizobium-Legume group
Phase I

Rhizobium-Legume group

Phase II



Financed by

- ✓ **CNRS** (**DRI** and **SDV**)
- ✓ Ministry of Foreign Affairs
- ✓ PhD fellowships by the French Government

- ✓ **Hungarian Academy of Sciences**
- ✓ University of Szeged (PhD thesis in co-directorship)

- ✓ **Budgets of the research groups participating in the Jumelage**:
- ✓ at the ISV: 2 groups
- ✓ at the BRC: 3 institutes

✓ **Contracts**: Copernicus, FP5 and FP6 EU programs Biotech., ECCO, etc) EMBO long-term and short term fellowships

Conclusions of Jumelage

- This was the first Jumelage of this type by CNRS, followed by many countries of Central and East Europe
- Financial support was maintained for several years, then reduced, but the label “Jumelage” was very helpful facilitating extension of collaboration to other countries (Germany, Belgium)
- The Jumelage helped the partners to play more important roles in multilateral collaborations
- The administration was easy, it was cost effective, it did not require high amount of financial support
- The Jumelage was an excellent way to establish and maintain international collaborations
- The jumelages were important to maintain competitiveness at international level

Creation of a new institute, BAYGEN based on FR – HU collaborative projects

2005 July

Memorandum of Intent signed by the Hungarian and French ministers

* Establishment of the common **Hungarian-French biotechnology research and innovation center in Szeged**, Hungary.

*Defined **common thematic priorities:**

plant genomics, bioenergy, biotechnologies for human health, biorefinery, bioremediation

2006 Aug.

NKTH
Nemzeti Kutatási és Technológiai Hivatal

HUNGARIAN-FRENCH COOPERATION IN THE FIELD OF BIOTECHNOLOGY

Call for proposals : Teller Ede NAP_BIO_06 Programme

Institute for Plant Genomics, Human Biotechnology and Bioenergy (BAYGEN)
Bay Zoltán Foundation for Applied Research

BAY ZOLTÁN
Alkalmazott
Kutatási Közalapítvány

Research projects in the BAYGEN Institute

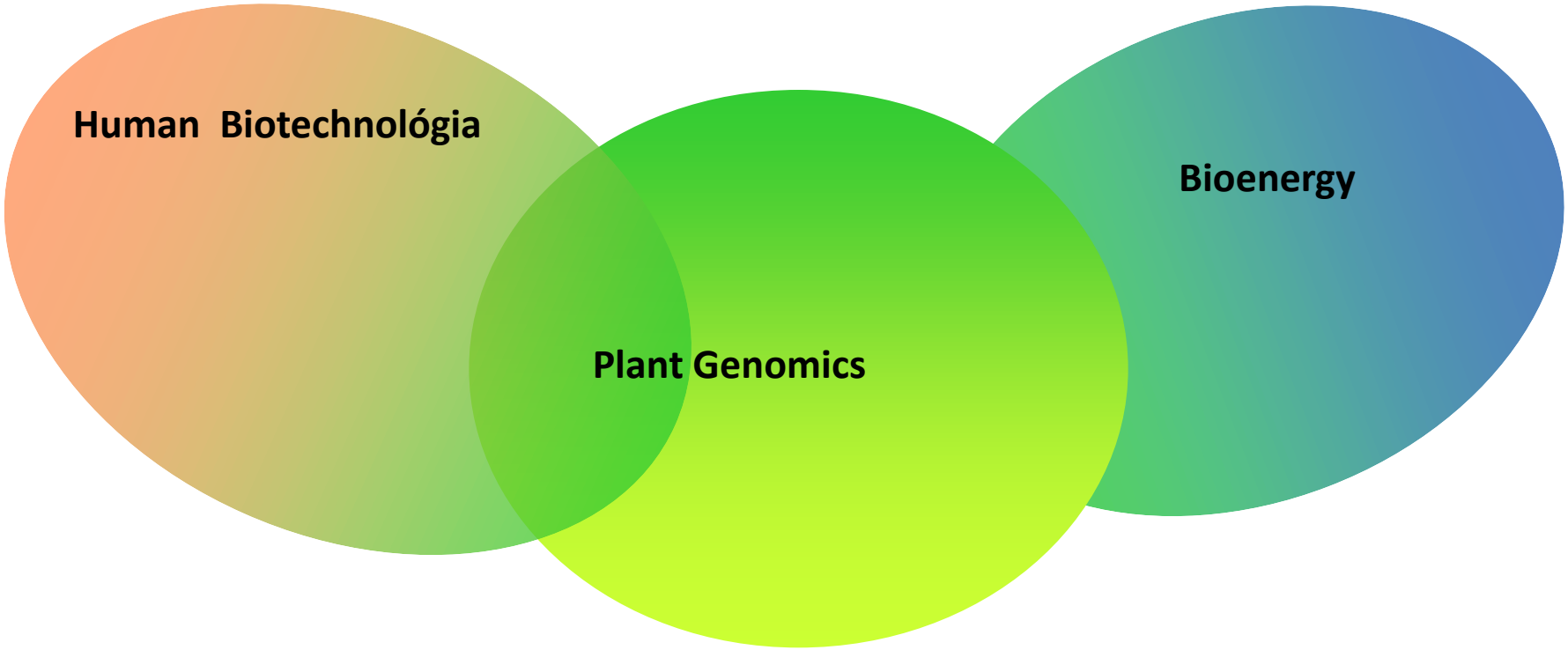
Plant Genomics Group:

New bioactive plant molecules

From nitrogen fixation to human healthcare


BAYGEN
2007-2010

BAYGEN PROJECTS



Interlinking projects

Aims:

Bay Zoltan Foundation for Applied Research: self-financing of each institute

BAYGEN : International reputation

Recent FR – HU bilateral projects

CALL: Kétoldalú Tudományos és Technológiai Együttműködés 2009 – 2010

New bioactive natural peptides in legumes bridging plant and animal systems
2009-2010

Hungarian Partners: Éva Kondorosi and Attila Kereszt, BAYGEN and Biological Research Centre of HAS, Szeged

French Partner: Peter Mergaert, ISV, CNRS, Gif-sur-Yvette

CALL: TET_09_FR_ANR_AGR; TÉT_09-1-2010-0009:

Role of nodule-specific Medicago peptides in terminal differentiation of nitrogen fixing bacteroids
2010-2012

Hungarian Partners: Éva Kondorosi and Attila Kereszt, BAYGEN and Biological Research Centre of HAS, Szeged

French Partners: Peter Mergaert, ISV, CNRS, Gif-sur-Yvette; Didier Héerourt, Interactions Biotiques et Santé Végétale, INRA, Sophia Antipolis

Other recent FR – HU bilateral projects

CALL: TET_10_FR_ANR_AGR:

LEGUMICS

Expanding the genomic tools for legumes and demonstrating their power in roots and symbiotic nodule development studies

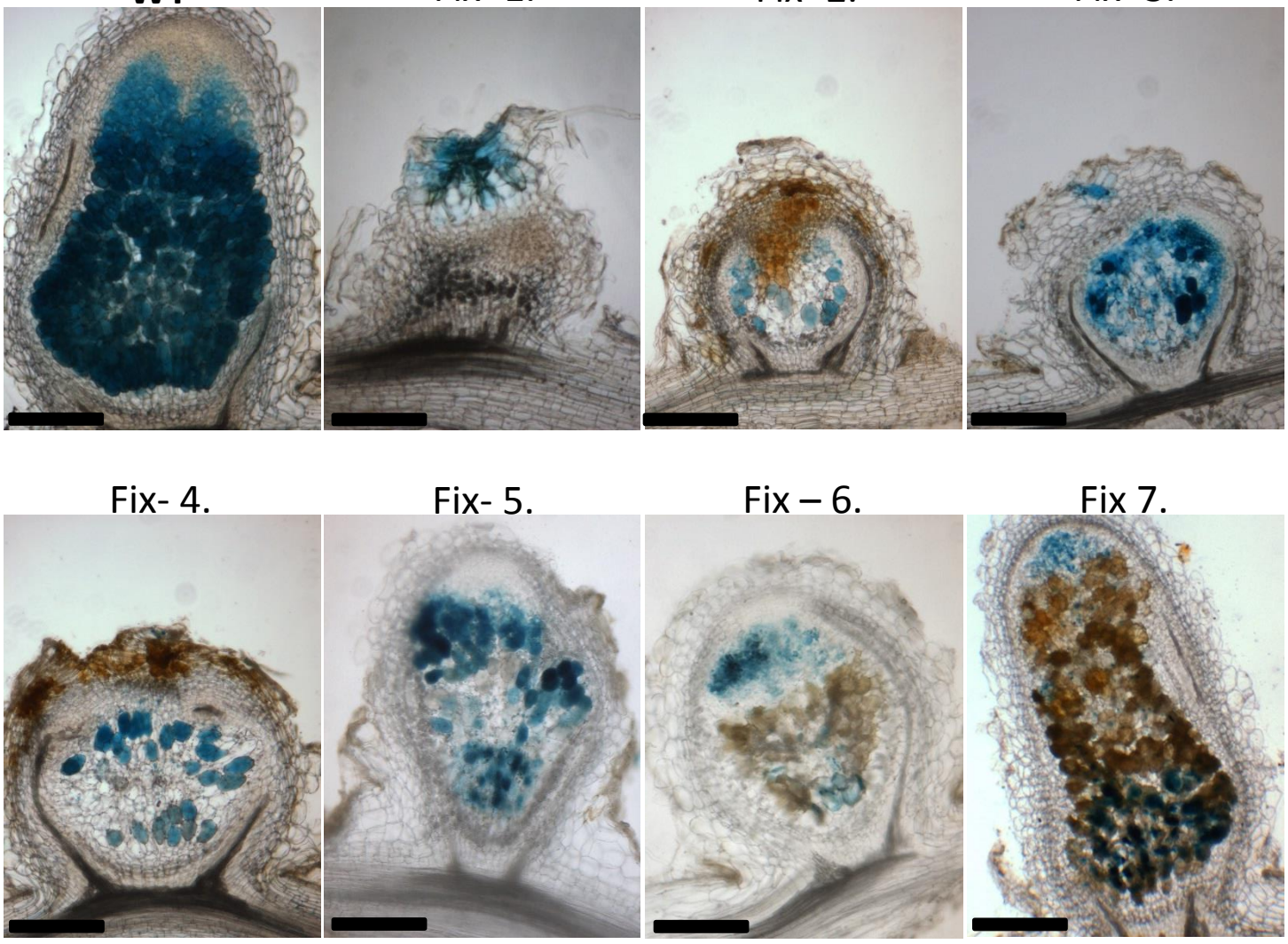
2012-2015

Hungarian Partners: Péter Kaló, Agricultural Biotechnology Center, Gödöllő; Gabriella Endre and Attila Kereszt, Biological Research Centre of HAS, Szeged

French Partners: Pascal Ratet and Florian Frugier, ISV, CNRS, Gif-sur-Yvette

LEGUMICS

Results of symbiotic screen: Identified new mutant lines



14dpi (**D**ays after **P**ost **I**noculation)

***S. Medicae* WSM419**
GUS stained

Recent bilateral BALATON projects

CALL: TÉT_12_FR-2-2014-0035

Characterisation of Medicago truncatula ineffective symbiotic mutants
2015-2018

Hungarian Partner: Péter Kaló, Agricultural Biotechnology Center, Gödöllő
French Partner: Pierre Frendo, University of Nice Sophia Antipolis

CALL: 2017-2.2.5-TÉT-FR-2017-00002; TÉT_17_FR:

Role of BacA/BclAa peptide transporters of rhizobia in symbiosis
2018-2019

Hungarian Partners: Attila Kereszt Biological Research Centre of HAS, Szeged
French Partners: Peter Mergaert, Institute of Integrative Biology of the Cell, Gif-sur-Yvette

Recent results of the collaborative projects (after **Jumelage**)

Common FR-HU publications : 47

38 in refereed journals, e.g.:

Science	1
P.N.A.S.	5
Plant Cell	2
Plant Physiol.	3
MPMI	7

1 patent

2011 Prix de la Recherche (Paris)

BIOLOGY

"Peptides antimicrobiens pour le contrôle de bactéries symbiotiques chez des plantes légumineuses"