

**APPLICATION FOR A CHAIR IN COMPLEX SYSTEMS SCIENCE
WITH EXPERTISE IN LIVING SYSTEMS**

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Current Position retired Academic Professor
UPPA Université de Pau et des Pays de l'Adour, Pau, France, Europe
small University, ranked 1201 into *Times Higher Education- World University Ranking*
(within a total of 2112 World selected Universities for 2022)

Education History

- **alumnus of ENS de Saint Cloud (currently ENS de Lyon), France (4 years)**
French High School ranked 14 in the World's best small universities WBSU 2002
I ranked 1st in biology in 1968,
I ranked 15 /120 at the (National) Nature & Life Sciences agrégation in 1972
- **alumnus of ENS de Paris, currently ENSPSL, France (1 year)**
French High School which ranked 2nd at the World's best small universities 2000
and 1st at *the Millenium University (THEWUR)* in 2018, 2019 & 2020
doc degree in Quantitative and Applied Genetics in 1970
- **alumnus of Paris VI University (Sciences, Jussieu), Paris, France**
which ranked 36 in THEWUR Times Higher Education- World University Ranking
in 2020 and 63 for Biochemistry, Genetics & Molecular Biology in 2022
master degree in biochemistry-biophysics-embryology-genetics 1969-1970
I ranked 1st in genetics
ENS Paris & Paris VI, now Sorbonne University, ranked 45 in 2022 THEWUR
- **Center of Molecular Genetics CGM, CNRS, Gif/Yvette, France (1 year)**
doc degree in Molecular Genetics (Prof. Piotr SLONIMSKI) 1971
- **Pluri-cellular Plant Physiology Laboratory LPPV, CNRS, Gif/Yvette, France**
postdoc in plant biotechnology (Prof. J.P. NITSCH, Prof. H. HARADA) 1973
- **École des Hautes Etudes en Sciences Sociales EHESS, LISH, Paris, France**
ranked 47 in QSWUR ranking by subject in 2022
internship in database analysis in 1983
- **CalTech, USA**
currently ranked 1 at WBSU 2002 and 2 at THEWUR 2022
Certificate of American Culture in 1984

I got simultaneously 2 Masters, 1 in biochemistry (Prof. François GROS) and 1 in genetics, at Paris VI University, Paris, France, and then 2 post-graduate specialities, with 1 "research memory thesis diploma" in Quantitative and Applied Genetics at ENS Paris (Prof. Albert JACQUARD) and then another 1 "research memory thesis diploma" in Molecular Genetics at CNRS & Paris VI. As I was an alumnus of the "École Normale Supérieure" ENS (ENS is already today the highest level network of academic schools in France to competitively recruit and then train highest education level academic Professors: only very few admissions for thousands of candidates) I passed the agrégation (In France a unique annual competitive examination: only 1 hundred admissions each year for thousands of candidates) [A French Republic President, Georges POMPIDOU, and a Senegal Republic President, Leopold Sedar SENGHOR, were ENS alumni and agrégés].

Working History

ACADEMIC COURSES ACTIVITIES

extensive teaching experience

teaching typically more than two modules/courses per year

- **University of Dakar, Senegal, West Africa** (1973-1981) - 8 years
courses in *plant biology* (undergraduate level, 4 years),
plant ecology (bachelor level, 2 years),
biochemistry (ENSA Dakar, IRD Thiès, 1 year),
genetics (master degree, 2 years),
plant physiology (doc degree, 4 years)
- **ENS of Nouakchott, Mauritania, West Africa** 1 year
course in *genetics* (bachelor degree)
- **UPPA Université de Pau et Pays de l'Adour, Pau, France** (1981-2010) - 30 years
ranked 1201 with a total 2112 for 2022
courses at undergraduate levels: *enzymology* (1 year), *genetics* (4 years),
management of natural resources (8 years), *microbiology* (4 years),
plant tissue culture (4 years), *plant physiology* (4 years),
applied informatics (6 years)
courses at bachelor level: *plant physiology* (12 years), *animal physiology* (4 years),
man physiology (6 years), *chronobiology* (10 years)
courses at master level: *chronobiology* (10 years), *applied statistics* (4 years)

ACADEMIC ADMINISTRATION ACTIVITIES

assuming administrative responsibilities based on experience

- UPPA head of Nature and Life Sciences Department (4 years),
- UPPA head of Biology Department (3 years)
- UPPA head of Health and Societal Sciences cursus (5 years)
- chair of Health national competitive examination training class (15 years)
- currently retired but still benevolently active (1901 French law Societies)

ACADEMIC RESEARCH ACTIVITIES: MY EXPERTISE JOURNEY

Institut Fondamental d'Afrique Noire IFAN, Dakar, Senegal (4 years)

Agronomic valuation of *Hibiscus sabdariffa*, *Malvaceae*

Leprosy Biological Research Center CRBL, Dakar University, Senegal (6 years)

pharmacodynamics & antibio-therapy of phosphonium (CNRS, World patent),
bétadine evaluation phase tests (laboratoire Sarget, France, World patent)
characterization of strains of *Mycobacterium leprae* (CRBL, World patents)

Laboratoire de Physiologie végétale LPV, University of Dakar, Senegal (4 years)

biochemistry, eco-physiology and genetics of cultivated (*Hibiscus sabdariffa*)
and wild plants of agronomic or medicinal (*Pedilanthus tithymaloides*) interest

African & Malagasy Committee for Higher Education 1980

the Academic Habilitation Research list of CAMES, examination & formal registration

UPPA Center for Altitudinal Ecosystems Studies CBEA, Pau, France (8 years)

plants biodiversity and ecology within the Pyrénées Natural National Park

UPPA Center for Regional Studies CER (Pays Basque, Béarn, Bigorre) &

French Corn Producers General Association AGPM, Pau, France (6 years)

industrial/wild ecosystems comparison: maize/Lathyrus

UPPA Institute for AgroSystems Experimental Studies IBEAS, Pau (4 years)

agronomy, biochemistry, genetics and ecophysiology of *Lathyrus macrorhizus*

PAU municipality subventions, Pau (6 years)

ecosystems dynamics evolution/conservation of the Pau state-owned forest
predator/prey plants-insects relationships new paradigm

Foundation of a new Research Center, CETA Apiculture-Pyrénées, Pau (6 years)

characterization and quality controls of honeys, genetics of bees inbreeding

MCX20 program foundation, MCX federation, Aix-en-Provence, France (10 years)

Health and Societal Systems Science research programs

French Military Authority for Sports, Fontainebleau, France (4 years)
sleep/performances of high competition sportsmen in extreme environments

strong team player

proactive and flexible but with good respect for deadlines

able to work in an environment with diversity and inclusiveness

I first made research works in **applied microbiology** and wrote a memory thesis -in French- (PhD#1): ***Bricage Pierre (1981), New Mycobacterium leprae Strains : Metabolic Markers, In Vitro Growth Factors, Lepro-static and Lepro-toxic Chemicals (Communications & publications).***, CRBL Centre de Recherches Biologiques sur la Lèpre, Faculté des Sciences, Université de Dakar, Sénégal, Prof Yvette Parès), [associated with patents: leprosy strains: 78.074.16 France, P.V. 567.68 OAPI, 254/CAL/79 India, 36.465/1980 Japan and chemicals: ANVARANDUM 623/687 4/1970], and got an "American Society of Chemistry" Award, Durham, USA. But I was ***recruited as assistant-professor in plant physiology at the University of Dakar, Sénégal***, because ***qualified by competitive examination of my publications works*** (Aptitude List in **agronomy**, from the Academic Council of Africa and Madagascar CAMES), so I did not pass this PhD in microbiology. Nevertheless I wrote a **second memory thesis** (PhD#2) -in French too-: ***Bricage Pierre (1982) Adaptive Molecular Expression of Pigmentation of Sahelian Plants. Ecological, Physiological and Genetical Determinisms. 385 p.*** (Orlando QUEIROZ, CNRS, Phytotron, Gif/Yvette, and Paris VI University, as Director -plant physiology-). But I was ***recruited at the University of Pau (France)*** and again I did not pass this PhD in Plant Physiology. Nevertheless I had an invitation from the Plant Transgene Laboratory, University of California, at Davis, USA (in 1984), because some of my research projects were selected for to be awarded and prized: - (1982) concours "Rolex Award for Enterprise", Genova, Switzerland : ***"Comparative Study of Metabolism Regulatory Rhythms in Plants by a Non-Damaging Biophysics Technics. Test for Adaptive Markers & Genetic Transfer Screen."***, - (1982) concours "Metanic", Research and Industry Ministry of France, Paris: ***"A non invasive biophysical technic for the study, without damage, of enzyme capacities daily and monthly rhythms, of C3, C4 and CAM plants."*** Fortunately I granted a tenure of "Maître de Conférences" (***Adjunct Professor tenure in biology***) in 1982 (my nomination letter -in French- is attached: [file pb_professional-roots.pdf](#)) and elected ***Head of the Biology Dept*** of my University.

Because the French Academic System was changed, ***to become full Professor***, I wrote a first HDR memory (**HDR in France is a degree above the PhD**) -but in French too- : ***Bricage Pierre (1992), Biochemical, Biophysical, Biological, Micro-Informatics and Computing Methods for Biological Products Quality Control (Selected Communications and Publications Collection).***, with Jean-Louis SERIS, ***Biotechnology & Environment Research Department of Lacq Research Group Elf-Aquitaine, now TOTAL***, as reporter and with a software patent deposition (CTRLQUAL). But I got financial supports from the Pau municipality and Pyrénées Atlantiques General Council and was elected as ***Head of a new Agricultural Technical Research Center*** (CETA Centre d'Études Techniques Agricoles "Apiculture Pyrénées") and got a ***Adjunct Professor first class access***, so I did not passed it. I wrote a second HDR memory (HDR#2): ***Bricage Pierre (2002), Associations for the Reciprocal an Mutual Sharing of Advantages and Disadvantages. 89 p. & 1 CD. (Communications and On-Line Publications, Creative Common Licence)***, with expert Systems Scientists from ***the European Network on Complexity MCX*** (Edgar MORIN is one of its Head figures) -MCX20 "Health and Social Systems Engineering"- and ***the Sciences Interdisciplinary European Academy (AEIS)***, as reporters. But my University wanted not to open (and finance) a too new way of Research in Systems Science. So I did not passed this **2nd HDR** but as I was appointed as ***Associate Professor (Hors Class)***. I resigned to be first class full Professor and I retired in 2010 (I could be retired very later), without Emeritus (I did not asked for).

a Health and Life Sciences 50 years of expertise in 40 Countries:

<http://iascys.org/pb/BricagePierreIASCYSbio.pdf> a very short CV in English

<http://iascys.org/pb/bplASCYSpageEN.pdf> a 1 page CV in English

<http://iascys.org/pb/bplASCYSpageFR.pdf> a different 1 page CV in French

personal webpage: <https://www.afscet.asso.fr/pagesperso/Bricage.html>

graphic chart of research activities 1970-2000 (papers before online websites)

file attached: [pb CV 1970-2000 O.pdf](#), in French

personal website: <http://armsada.eu>

NATIONAL and INTERNATIONAL RESPONSIBILITIES

leadership in curriculum development and enhancing of research

- UNESCO author contract n° 206925, Paris, 1981

A guide for biological sciences in African Schools (English programs):

methods, pedagogy, media, terminology, bibliography. (file: [pblASCquote 2010.pdf](#))

- UPPA management of natural resources

research internships at the bachelor levels: 10 years, more than 50 students

- UPPA Laboratory of Didactic and Pedagogic Communication LDGP (20 years)

- and UPPA Laboratory for education and collaborative science research LPAF
co-working with the Continual Formation Service FORCO Pau, Toulouse, France

- IASCYS the International Academy for Systems and CYbernetic Sciences

<http://iascys.org> Secretary General 2010 –

**research, higher education and application, engineering and operation research
in Systems Sciences and Cybernetics**

http://iascys.org/IASCYS_10thAnniversary-2020-pb.pdf

substantial experience in the supervision of research students

- EMCSR (European Meetings for Cybernetics and Systems Research),

- BCSSS (Bertalanffy Center for the Study of Systems Science), Vienna, Austria,
and IASCYS **Ph D days competition** 2010-2016

- IASCYS **Charles François International Prize** 2017 – today

strong leadership and interpersonal skills

- WOSC the World Organisation of Systems and Cybernetics <http://wosc.co/>

Executive Director Jan. 2011 – Dec. 2017

system sciences expertise, world congresses organization

- UES-EUS the European Union for Systemics <https://www.ues-eus.org>

national Societies merged into an European Organization for Systems Sciences
deputy Secretary General Jan. 2011 – Dec. 2015

international congresses organization and papers edition/publication

- AFSCET <http://afscet.asso.fr>

the French Society for Cognitive, Technical and Cybernetic Systems Sciences

Vice-President (International Staff) Jan. 2000 – today

**organization of annual days meetings, national and international,
attending and at distance, books edition, online papers publications
(Creative Commons)**

<http://www.res-systemica.org/afscet/resSystemica/res-systemica-numeros.html>

Awards History

American Chemical Society travel Award, 1980

Duke University, Durham, USA, *ranked 23 in THEWRU in 2022*

University of California at Davis visiting Award, 1984

ranked 67 in THEWRU in 2002

PAPERS selection

examples, mainly in French: <https://www.afscet.asso.fr/interventions.html>

<https://ojs.uclouvain.be/index.php/AES/issue/archive>

but the most relevant ones were published in English, either in **Chinese Journals**

- Teaching Systems & Cybernetic Sciences in Higher Education, 成都, 四川省的省会, Oct. 2010.

- Use of chronolithotherapy for better individual healthcare and welfare. *JSSSE* 26: 336-358 (2017)

or as **chapters in books:**

- Living Networks of Networks: The Societal and Environmental Responsibility of Humanity in the Fight between Humans and the Wild., *In* Robert G. Dyck & Matjaž Mulej Editors, *Social Responsibility Beyond Neoliberalism and Charity*. Vol. 3: Social Responsibility - Methods, Dilemmas and Hopes., pp. 257-277,

- Modelling Space-Time-Action Modularity and Evolution of Living Systems. (2016)

In Advances in Complex Societal, Environmental and Engineered Systems, pp 269–297.

for **new theories and chairs**: please look at the [attached file pblASCquote 2010.pdf](#)

and for others in Research Gate: <https://www.researchgate.net/profile/Bricage-Pierre>

Graduate in biochemistry (Prof. François GROS), embryology (Prof. Louis GALLIEN), **genetics** (Paris VI, France, 1969); postgraduate in **quantitative genetics** (ENS, Paris, France, 1970, Prof. Maxime LAMOTTE, Prof. Albert JACQUARD), **molecular genetics** (CGM, CNRS, France, 1971), **informatics** (LISH, EHESS, Paris, 1984); life sciences agrégation (ENS S' Cloud, France, 1972). Research in plant **biotechnology** (LPPV, CNRS, 1973), **agronomy** (IFAN, Dakar, Senegal, 1974), **biochemistry**, genetics (LPP, Dakar, 1978; IBEAS, Pau, France, 1982), **bacteriology** (CRBL, Dakar; CNRS, Thiais, France, 1980), natural systems management (CBEA, Pau, 1984), **plant population** genetics, ecophysiology (UPPA, Pau, 1986), **products quality control** (CETA, Pau, 1988), **education** sciences information technologies (LDCP, Pau, 1982; LPAF, Toulouse, France, 1992), **plants insects relationships** (CBEA; IBEAS, Pau, 1988), **chronobiology** for improving scholars competencies, **health & societal systems engineering** (AFSCET, Paris; MCX20, Pau, 1998), **performances in extreme environments** (LBAS, Pau; Sports InterArmies Institute, Fontainebleau, France, 1990). Teaching as assistant-professor in microbiology (CRBL, Senegal, 1975), plant ecophysiology (CAMES, Senegal, 1977), genetics (ENS, Nouakchott, Mauritania, 1979), biochemistry and genetics (UPPA, Pau, 1981), applied micro-informatics (1983), life sciences dept head (1984), adjunct-professor of physiology (1986), associate-professor of human physiology -chronobiology- (1988), health and social sciences department director (2000), retired in 2010. AFSCET vice-president (Paris, 2002 –), UES-EUS deputy secretary general (Bruxelles, Belgique, 2010-2015), WOSC director (Lincoln, UK, 2011-2017), IASCYS secretary general (Vienna, Austria, 2010 –).

<http://iascys.org/pb/bplASCYSpageFR.pdf>

Independently, I demonstrated the new paradigm of **ARMSADA** (Association for the Reciprocal and Mutual Sharing of Advantages and DisAdvantages), proposed the new concepts of **gauge invariance**, **capacity to be hosted** and **phylotagmotaphology** of living systems, challenged *original procedures* for **HIV** (Paris, World congress, 2005) and **cancer** (2008, Lisboa, European meeting) **curative vaccines** (CC deposit & CNRS open archives); with *chronobiology*, *lithotherapy* and *reflexology*, I continuously ran *nonconventional research ways*.

List of [supporting files](#) attached with this one (file [pb_TopTalent-application_SystemsScience-Chair_O.pdf](#)):

formal documentary evidence: [file pb_professional-roots.pdf](#)

initial education history map: [file pb_CV_map_1965-1981.png](#)

graphical chart of activities before 2000 On Line publications: [file pb_CV_1970-2000_O.pdf](#)

assessment at retirement in 2010: [file pblASCquote_2010.pdf](#)

working history-map in complex systems: [file pb_armsada_Complexity-Science-Map_1968-2015_O.pdf](#)

passport copy: [file pb_passeport2019_19FC16386.png](#)

photo: [file pb_photo.jpg](#)

Pierre BRICAGE 10 September 2022