

**Pierre BRICAGE,**  
**The Magnum Opuses:**

- #1 ARMSADA Associations for the Reciprocal and Mutual Sharing of Advantages and DisAdvantages (1989),
- #2 GAUGE INVARIANCE of living systems (1991),
- #3 PHYLOTAGMOTAPHOLOGY (2009).

**The Thought Experiment (The Prop):**

- #1 Predictive Applications in curative vaccines: AIDS (2005), cancer (2008),
- #2 Ergodicity (2001), Life Systems Periodic Table (2002), cell origin (2005),
- #3 Time-Space Allometric Universal scaling Power Law of living systems (2009).

**The Confirmation (The Headline):**

- #1 "THE WHOLE IS BOTH MORE AND LESS THAN THE SUM OF ITS PARTS" (1991),
- #2 ECOEXOTOPE "HOSTING CAPACITY" and ENDOPHYSIOTOPE "TO BE HOSTED CAPACITY" (2001),
- #3 ALLOMETRIC SCALING POWER LAWS LEVELS (2012).

**The Variables (The Tags):**

- #1 EMERGENCE, SYNALLAGMATIC DEAL, WHOLENESS,
- #2 METAMORPHOSIS, NETWORKING, PERCOLATION,
- #3 EMBEDDING and JUXTAPOSITION, LIVING SYSTEMS CLOSURE LEVEL, HYPERUNIVERSE.

born on October 15, **1947** in Paris, is a French biologist, teacher-researcher in Engineering of Health and Social Sciences, retired from the University of Pau and Pays de l'Adour, **specialist in systems and cybernetic sciences applied to living systems**. He is recognized for his research activities in the field of systems science in France within AFSCET <https://www.afscet.asso.fr/pagesperso/Bricage.html> and internationally as past co-leader of EMCSR, **IASCYS**, IFSR, UES-EUS and WOSC.

He has engaged in national and international societies **promoting interdisciplinary research and education** in Life, Earth and Universe sciences <https://bricage.perso.univ-pau.fr/>

**Biography**

His studies and initial training focused on biology-physiology (biophysics, biochemistry, enzymology, genetics, microbiology, embryology, animal and plant physiology) at the University Pierre and Marie Curie (Paris). Former student of the École Normale Supérieure, after the aggregation in biology-geology, he pursued an academic career at the University of Dakar (Senegal) then at the University of Pau and Pays de l'Adour (France) where he held teaching positions, research and administrative directions in disciplines related to biological sciences, health and social sciences. He has taught systems theory and **micro-informatics applied to quality control** of products of biological origin, and to **the analysis of data banks in sanitary and social sciences**. <https://bricage.perso.univ-pau.fr/CQSHQV.html>

He has worked on **a wide variety of research topics**: educational sciences (UNESCO author, Dakar, IUFM Pau, INSPE Paris), biological rhythms, biochemical, physiological, ecological and genetic determinisms, enzymology, plant pigmentation in Sahelian and temperate climates. He contributed to patents for bacterial strains (leprosy mycobacteria), antibiotic products (phosphoniums, bétadine) and a quality control software (CTRLQUAL) <https://bricage.perso.univ-pau.fr/ARMSADA/pb/BricagePierreIASCYSbio.pdf>

Retired from his academic duties, he has remained efficient in scientific, educational and management activities, for example as "long-term guest professor", at the University of Sichuan (Chengdu, P.R. China), among other commitments, volunteers, administration, of teaching, extension and scientific research in various Societies (AFSCET, ALBA, PELLEAS, IASCYS, UTLA) <https://bricage.perso.univ-pau.fr/OpenEducation.html>

**Associative commitments and collective responsibilities**

Leader in organizations related to systems science and cybernetics <https://emcsr.net/pierre-bricage/>, Pierre Bricage has been heavily involved in national and international associations and institutions, as Vice-President of AFSCET (Association Française de science des Systèmes cybernétiques Cognitifs Et Techniques, <https://afscet.asso.fr/AfscetPresentation.html>) since 2000, in charge of international relations.

Member of the directory of the World Organisation of Systems and Cybernetics (WOSC) for 6 years, Secretary General of the International Academy for Systems and Cybernetic Sciences (IASCYS) for 15 years <http://armsada.eu/IASCYS/index.html>,

he has been involved in **the unification of the European network of systemics and cybernetics** (AFSCET, EMCSR, European union of systemic UES-EUS deputy Secretary General), for 4 years  
<https://www.res-systemica.org/afscet/resSystemica/vol21-printemps-2021/Res-Systemica-vol21.html>

## Work and contributions

Before 2000, he had already produced more than 250 pedagogical or scientific works in more than 20 countries [http://bricage.fr/CV/pbCV\\_1970-2000\\_O.pdf](http://bricage.fr/CV/pbCV_1970-2000_O.pdf) His research themes covered various fields: human rhythms (learning, sleep), metabolic biochemistry, eco-physiology and genetics of living animal and plant systems (corn in organic farming, forest, honey), **modeling and governance of living systems** (with his **new ARMSADA paradigm** <http://armsada.eu>), evolution of the living systems (virus and cell origin) and societal and environmental responsibility of the human species. Since 2000, his work exclusively **online and in open access (Creative Commons)** has focused on the fundamentals of living systems science, **with predictive applications in curative vaccine technologies**, notably for AIDS (Paris, 2005) and cancer (Lisboa, 2008).

He contributed to the promotion of systems thinking, through courses, conferences, slideshows, keynotes, webinars and workshops, in France and abroad <https://www.afscet.asso.fr/pagesperso/Bricage.html>

## Distinctions and titles

“Long-term Guest Professor” at the University of Sichuan, R.P. China (2015-2021), head positions in systems sciences scholarly Societies (founding member of AFSCET in 2000, IASCYS in 2010, and UES-EUS in 2011), founder of *Acta Europæana Systemica* <https://ojs.uclouvain.be/index.php/AES/about/editorialTeam>

## Selected publications (examples of notable works or interventions)

- *International Academy of Systems and Cybernetics Sciences (IASCYS): The first awards of the International Prize.*, article in *Acta Europæana Systemica* (2018) <https://doi.org/10.14428/aes.v8i1.56583>
- Every year since 2000, numerous transdisciplinary presentations during the AFSCET Days and interviews, international symposia and seminars, in France and abroad <https://www.afscet.asso.fr/AndeJournées.html>  
<https://www.res-systemica.org/afscet/resSystemica/accueil.html>
- *Time management by living systems: temporal modularity, rhythms and continuous operation schedules. Methodology, theory and applications.* (2013) <https://onlinelibrary.wiley.com/doi/abs/10.1002/sres.2237>
- « **Allometric scaling laws of living systems** » <https://www.researchgate.net/profile/Bricage-Pierre>  
“**phylotagmotaphologie**” <https://hal.science/hal-00423730v1>
- Articles and communications on various topics, such as *chronobiology, lithotherapy applied to individual care, pedagogical systems and systems governance* (presentations and articles available on his personal site <http://bricage.fr> and ResearchGate), for example: *Foot Reflex Therapy and Energetic Chronotherapy Tools for Better Individual Healthcare and Welfare?* <https://biomedgrid.com/fulltext/volume2/foot-reflex-therapy-and-energetic-chronotherapy-tools-for-better-individual-healthcare-and-welfare.000571.php> (2019),  
[https://www.researchgate.net/publication/317104738\\_Use\\_of\\_chronolithotherapy\\_for\\_better\\_individual\\_healthcare\\_and\\_welfare](https://www.researchgate.net/publication/317104738_Use_of_chronolithotherapy_for_better_individual_healthcare_and_welfare) (2017),  
*Trans-disciplinary systemic approach to ego-antagonism and the dilemma of prisoners from a corpus of comic books. Journal of multimodal media literacy research* (2015)  
<https://www.erudit.org/fr/revues/rechercheslmm/2015-v2-rechercheslmm03742/1047318ar.pdf>
- Collective works, articles, published through European scholarly Societies (AFSCET, EMCSR, MCX, UES-EUS) [example: *La Gouvernance dans les Systèmes.* <https://afscet.asso.fr/6ESSC/congresParis.html>  
<https://www.amazon.es/-en/Afscet/dp/8876990941> (2005)]
- Booklets for research-discovery popularization, innovation support or scientific education:  
<https://livres.bookelis.com/auteur/bricage-pierre/35962> , <https://www.fr.fnac.ch/ia11512865/Pierre-Bricage>

## References and rooting links

Pierre Bricage, IASCYS Secretary General (archive International Federation for Systems Research) <https://archive-ifsr.org/2010/12/01/international-academy-of-systems-and-cybernetic-sciences-iascys>,  
notification EMCSR (Emerging Complexity & Systems Research) <https://emcsr.net/pierre-bricage>,  
International AFSCET Vice President Board of Administration <https://www.afscet.asso.fr/bureau.html>,  
personal page/CV on the AFSCET website <https://www.afscet.asso.fr/pagesperso/Bricage.html>,  
current personal page and professional website <https://bricage.fr>,  
past academic (Pau University) website <http://web.univ-pau.fr/~bricage>,  
profile ResearchGate (publications and affiliation) <https://www.researchgate.net/profile/Bricage-Pierre>,  
articles, presentations, keynotes, documents (ARMSADA website) <http://armsada.eu>