

From CISTRE to CESMEC

The “Centro Interdipartimentale di Studi e Ricerche sull’Etnobiofarmacia” (Interdepartmental Centre for Studies and Research on Ethnobiopharmacy, CISTRE) was established in 2005 at the Pavia University on a proposal of a number of lecturers at the then existing Departments of Organic Chemistry (Professors Paola Vita Finzi and Giovanni Vidari), Pharmacology (Professors Stefano Govoni and Luigia Favalli), and Drug Chemistry (Professors Gabriele Caccialanza and Gabriella Massolini). Thereafter, in addition to other lecturers from the same departments (Professors Giorgio Mellerio, Giuseppe Zanoni, Simona Collina, Gloria Brusotti, Mayra Paolillo Grisolo), experts in Life Sciences (Professor Anna Picco), Botany (Professor Francesco Bracco), Mycology (Professor Solveig Tosi), and third-party ones (Doctor Enrico Selva) also joined. It should be noted that the Centre never had its own headquarters, but worked as a connection and coordination hub for the laboratories and equipment in the connected Departments and, particularly, as an ongoing stimulus to share and carry out research and projects that called for integrated skills from a variety of scientific sectors. The establishment of the Centre was mainly motivated by the acknowledgement of the scientific and economic importance of natural remedies obtained from plants, considering the widespread use of “botanicals” for health care also in western countries and the renewed interest of pharma industries in the discovery of new biologically and pharmacologically active molecules isolated and/or derived from natural sources. The Centre also leveraged on the decades-long experience of some of its lecturers in educational and scientific cooperation programmes implemented with developing countries, particularly in Africa and Latin America, where phytotherapeutic remedies are still used by 80% of the population. These contacts had highlighted the existence of centuries-old cultures and traditions, organized according to original lifestyles and beliefs at high risk of extinction due to the well-known western cultural development and globalization processes. The Centre was therefore intended as a meeting place for cross- and multi-disciplinary scientific and human experiences – hence the name “Ethnobiopharmacy”. Its purpose was to study these different traditions, particularly in view of defining the context for the use of folkloric medicines within the reference cultural system, and to ascertain their therapeutic efficacy using the methods and procedures of modern scientific investigation. The focus on, and the opening towards the institutions of emerging countries were actually constant in time for the Centre, whose labs hosted to undergraduate, graduate, and Ph.D. students from, among others, Zimbabwe, Cameroon, Ecuador, Venezuela, Guatemala, Croatia, Chile, China, India, Kurdistan, Myanmar, Tunisia, Armenia. These studies and research primarily focused on biomedical, chemical-pharmaceutical, and anthropological issues concerning the countries of origin of the students. Recurring topics included the isolation, structural characterization, and determination of the biological activity of the active ingredients of traditional plants from these countries. The findings of research were leveraged on to publish books and numerous scientific papers, as well as for lectures at international congresses, with Italian and foreign co-authors (see separate list). The Centre also carried out ongoing institutional training activities and organized, for each academic year, a 2nd level master course that has now reached its eight edition. It was first called “Ethnobiopharmacy and Sustainable Use of Biodiversity,” then changed to “Ethnobiopharmacy and Natural Products from Biodiversity.” Both Italian and foreign students participated, and lecturers came from the Pavia University and other Italian Universities, as well as from the international professional and cooperation world. In the years 2001-2003, the Centre also organized an International two-year Italy-Ecuador master course funded by the Italian Ministry of Education as one of its international cross-university cooperation projects, such as *Training and Research programme for the sustainable use of the biological wealth of Amazonia: Technologies for sustainable use of non-traditional biological resources*. As many as ten Ecuadorian students attended this

course, then found a job with scientific institutions in their country. With a significant contribution from the Lombardy Region (ASTIL project), the Centre later set up a Ph.D. based on the “split” concept in cooperation with the Kurdish universities of Erbil (Salahaddin University) and Zakho. By the end of 2016, this will provide the Ph.D. in Chemistry to 4 Kurdish students. A similar initiative, funded by the Panacea-Erasmus Mundus project, involved three chemistry students from Myanmar in the years 2014-2015.

In 2015, with the reform of Centres by the academic bodies of the Pavia University, which provided for a different operation of departmental ones, the CISTRE was transformed into the Centre for Research on “Ethnobiopharmacy and Traditional and Complementary Medicines” (CEMEC), upon the initiative and proposal of a large group of lecturers at the present Department of Drug Sciences. Since 2016, the new Centre has a new director (Professor Gabriella Massolini), a new statute, and a new Technical and Scientific Committee that includes both lecturers from the Departments of the Pavia University and third-party experts.

While the new Centre pursues the cultural and scientific goals of the pre-existing CISTRE Centre with the traditional chemical-pharmaceutical and life-science components, it also introduced new medical disciplines, both from the Pavia University (Professor Plinio Richelmi) and from Milan (Professors Umberto Solimene and Emilio Minelli). This expansion of the scientific scope was deemed necessary to integrate the study of the pharmacological properties of the active ingredients of traditional medicines with possible clinical studies, as well as to respond, using a strictly scientific approach, to different kinds of issues arising from the more and more popular use of Complementary Medicine by populations in both developing and developed countries. In this respect reference should be made to the Alma-Ata declaration of 1978, where the WHO spoke in favour of the recovery of all the therapeutic resources available among the different populations in order to achieve the WHO Millennium Goal “2000 Health for all”, and pointed out to complementary medicine practices and products as cheaper solutions compared to biological medicine ones. On the other hand, Complementary Medicine (CM) consists of a set of diagnostic-therapeutic models, often with different epistemological statutes compared to biological medicine, but not widespread and acknowledged by regulators as Traditional Medicine. CM aims at contributing to people’s health by integrating, rather than substituting Biological Medicine, with health being intended as a “state of overall physical, psychic, and social wellbeing, and not merely the absence of disease, to which different diagnostic and therapeutic approaches can participate, taking into account all human aspects, including those that cannot be referred to pre-definable schemes connected with health and disease,” as stated in the WHO Millennium Goal “2000 Health for all.” It should be noted, however that lots of methods exist, particularly in Complementary Medicines, that fall outside the scope of any acknowledgement and are often used by people, also in Italy, without control over training or professional standards and profiles.

The new Centre, open to Italian and foreign inputs and collaborations, has the ambitions, the goals, and the expertise required to address these issues that are so important for people’s health and wellbeing. It will pursue these new and old goals by implementing research and scientific training programmes, in keeping with the tradition of the pre-existing CISTRE. These will add up to new stimuli from the medical and health sector.

Professor Giovanni Vidari (past Director of CISTRE)