

Multidisciplinary Knowledge in Forensic Sciences at the Service of Latino Communities: Case Study from Paraná, Brazil



CDRM D'Oca^{1*}, MRS Fernandes², AB Rumbelsperger³ and N Chaves⁴

^{1,2,3}Assistant Chemical Analyzer, Regional forensic Science Laboratory, Dhantoli, Nagpur 440022, Maharashtra, India

⁴Assistant Director, Regional forensic Science Laboratory, Dhantoli, Nagpur 440022, Maharashtra, India.

⁵Deputy Director, Regional forensic Science Laboratory, Dhantoli, Nagpur 440022, Maharashtra, India

Submission: October 1, 2023; **Published:** November 28, 2023

***Corresponding author:** CDRM D'Oca, Chemistry Department, Federal University of Paraná (UFPR), Brazil. Email: carolinedoca@ufpr.br

Abstract

This is a broad project of a multidisciplinary extension nature in several countries in Latin America, based on the Red Iberoamericana de Investigadores Forenses (in Spanish), the RIIF. The central premise is that Forensic Sciences (FS) are so present in the everyday social life that it is necessary to 'demystify' their characteristics, since they are closely linked to words such as 'death', 'homicides' and 'investigation criminal'. In other words, deconstruct stereotypes. Based on the wise words of the French thinker Edgard Morin (1990, p.257), apud Patrícia Fachone & Léa Velho [1], in 'Forensic Science: intersection of Justice, Science and Technology', 'we can no longer consider a complex system in the light of reductionism, which wants to understand the whole based on the quality of the parts (only); even in the light of holism, which is no less simplifying and neglects the parts to understand the whole' (2016. p. 141). And that is precisely what FS is – a complex system, which navigates through fields of human routine such as the consumption of pharmaceuticals and cosmetics to the verification of counterfeits or adulterations in segments such as vehicle safety, food supplements, beverages, high-precision tools and toys, among many others that can be cited. From this macro scenario, this work is dedicated to presenting actions that have been developed since 2020 within the Brazilian State of Paraná, involving three public universities that, based on their peculiarities, have been dedicated to the aforementioned dissemination of Forensic Sciences, with teams from areas such as Biomedicine, Social Communication, Geology, History and Chemistry [1].

Keywords: Forensic sciences; Extensionist practices; Multidisciplinary activities; Paraná state; Brazil

Introduction

Objectives

Promote the scientific dissemination of FS as a field of Knowledge essential for the development of the social life.

Specific objectives

Dissemination of good practices and consolidation of collective actions of the Red Iberoamericana de Investigadores Forenses (RIIF, in Spanish), notably form an umbrella project oriented towards forensic development towards the search for missing persons through technical methods scientific forensic investigation, solving the families of thousands of missing people in Latin America (LA). Promote an increase in the level of knowledge and access for FS within the Brazilian State of

Parana, based on actions carried out by three Universities – UFPR, UNICENTRO & UEPG [2].

Methodology

The range of methodological practices is vast and growing. All starts with the creation of the Center for Forensic Sciences (CCF) at the UFPR, in 2020 bringing together teachers and undergraduate and postgraduate students for different areas, such Chemistry and Geology. As of 2021, the UNICENTRO and the UEPG joined the cause, with contributions from areas of training of their teams – which includes Biomedicine, Social Communication and History, just to name a few cases. As a common core, there is an interest in 'contributing to the training of highly qualified human resources, with the insertion of modern and high-tech tools in forensic

investigation and dissemination of knowledge in FS – positioning Brazil as one of the world's references in Criminalistics (CCF, 2020).

About the CCF, since then there have been records of personnel qualifying practices on topics such as: Assessment of the authenticity of works of Art and objects of cultural heritage; Tracking the origin of criminal traces and samples; Micro traces of forensic interest; Forensic geoprocessing; Correlation of digital evidence and computer forensics; Forensic toxicology; Identification of new psychoactive substances (NSP), adulterations and counterfeits; Forensic mineralogy and Gold exploration chair; and Forensic genetics. As for the first item, from the Authenticity Assessment..., two modules have already taken place, in 2022, both in the city of Curitiba (capital of Paraná State), with an audience of equally varied origins – around 40 people from the local community benefited. Edition 03 is scheduled to take place in October of this year (2023, with 30 places), under the co-organization of the Museu dos Campos Gerais (MCG, in Portuguese, in the municipality of Ponta Grossa, 100 km from Curitiba), an important memorial space multidisciplinary project under the management of UEPG. Workshop 04 (30 participants) will take place in March 2024 in Iguassu Falls (Paraná, 650 km from Curitiba), during the scientific-extension international congress 'Brazilian Environment against Counterfeiting and Adulteration (Ambifals 2024): integrated cultural, social solutions, economic and regulatory', whose dynamics will include the holding of thematic symposia, working groups, fair, exhibition, technical visits and demonstrations of product authenticity. Regarding the exhibition, around 2.000 high school students are expected, between March 19 and 21, at UDC University. Still within the CCF space, the virtual panel on Environmental Crimes and Forensic Sciences held in 2022 stands out, with a vast online audience.

More, UNICENTRO has dedicated itself to a large extent to the so-called Media Dissemination of Forensic Sciences, both for its internal and external community. In 2022 and 2023, for example, the Museum of Forensic Sciences (MCF) of the Scientific Police of Paraná (PCP) was present in two extension activities of enormous extension impact and which generated spontaneous (unpaid) media of high consideration – the Cedeteg Campus Science Mornings (November 2022 and August 2023), in a reference to one of the campuses that the institution maintains in the city of Guarapuava, 250 km from Curitiba and 380 km from Iguassu Falls. The first time, around 800 students were affected. In the most recent occurrence, 2,200 students benefited from the

collection exposed by the MCF and its team of experts. In addition, undergraduate and postgraduate students from various careers at UNICENTRO have carried out reconnaissance missions to the Scientific Police headquarters in both Guarapuava and Curitiba. And, from November 2023 onwards, road shows (quick traveling exhibitions of the Museum's collection) and press tours (meetings with journalists and communications professionals) are planned in many cities in the interior of Paraná, a proposal duly aligned with the purpose of the which we can outline as a pro-Forensic Science extension profession of faith.

Partial Results

The project is still young (it will be completed in 3 years at the end of 2023) but the impacts are already felt, especially clearly in the training of human resources, through the technical visits or workshops mentioned above. There is also a growing interest in FS among undergraduate students, as is the case in the working group created in 2022 by professor Dr Carlos Ricardo Malfatti (Biomedicine and Pharmacy at UNICENTRO). Teamwork will soon result in a temporary exhibition on Tampering and Counterfeiting of products, news and practices in the national financial system that will be open to the general public between October and December 2023 at the same MCG [3].

At this point, it must be said that looks to the future point to challenges that can be overcome and, therefore, excellent opportunities that lie ahead: consolidation of a Paraná Forensic Sciences Network (RPR-CF); multidisciplinary and multilaboratory action with integration of skills; development of Science, Technology & Innovation in line with forensic demand; optimization of public resources and distribution of analytical infrastructure; excellence (previously indicated here) in the training of (more) human resources; scientific and media dissemination of forensic practices in favor of general society; and Science and Public Security in permanent synergy. Ultimately, the most covered layer ends up being the people of Paraná itself, with positive developments spread across the other RIF countries, namely Argentina, Chile, Colombia, Spain, Guatemala, Mexico, Peru, and Portugal.

References

1. Fachone P, Velho L (2007) Ciência Forense: interseção Justiça, Ciência e Tecnologia. *Revista Tecnologia e Sociedade* 3(4): 139-161.
2. Red Iberoamericana de Investigadores Forenses (RIIF).
3. Martín C (2022) Avances en Antropología Forense. Ciudad de México, Mexico.



This work is licensed under Creative Commons Attribution 4.0 License
DOI: [10.19080/JFSCI.2023.18.555978](https://doi.org/10.19080/JFSCI.2023.18.555978)

Your next submission with Juniper Publishers will reach you the below assets

- Quality Editorial service
- Swift Peer Review
- Reprints availability
- E-prints Service
- Manuscript Podcast for convenient understanding
- Global attainment for your research
- Manuscript accessibility in different formats
(Pdf, E-pub, Full Text, Audio)
- Unceasing customer service

Track the below URL for one-step submission
<https://juniperpublishers.com/online-submission.php>