

Europe Unites for the Digital Transformation of Pathology: The Role of the New ESDIP

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Abstract

The European Society for Digital and Integrative Pathology (ESDIP) was formally founded in 2016 in Berlin. After a well-participated annual general meeting, ESDIP members elected a new active structure for the next term of office. The priority goals of this new and highly motivated team will be to support the digital transformation in the pathology laboratories, to build inter-institutional bridges for cooperation, to establish a solid educational program, and to increase the collaboration with industry partners.

Keywords: Digital pathology, Europe, European Society for Digital and Integrative Pathology

In June 1992, Kayser, from all over Europe, organized in Heidelberg, the first European conference on telepathology. That meeting brought together the nuclei of people that started the discussion about digital pathology in Europe.^[1] This "digital pathology" movement grew informally for a long time by promoting events on a biannual basis. It was only in 2016, during the 13th European Conference on Digital Pathology in Berlin, that the European Society for Digital and Integrative Pathology (ESDIP) was formally founded. ESDIP has supported the key role of the pathologist in the digital transformation, providing informal advices, promoting education on the topic, and stimulating networking with an exchange of knowledge during the editions of the European conference on digital pathology.

On July 9, 2020, after a well-participated annual general meeting ("virtual/digital" because of the COVID-19 pandemic), ESDIP members elected a new active structure for the next 3 years. Twenty-two members constitute the main structure of this society. It is a mixture of pathologists and informatics/technology researchers (ITs) from ten European countries (by alphabetic order: Bulgaria, Finland, France, Germany, Italy, Lithuania, Portugal, Romania, Spain, and the United Kingdom). Catarina Eloy (pathologist from

Portugal) and Norman Zerbe (IT scientist from Germany) are, respectively, the new president and vice president of ESDIP. The priority goals of this new and highly motivated team will be to support the digital transformation in the pathology departments, to build inter-institutional bridges for cooperation, to establish a solid educational program, and to increase the collaboration with industry partners. According to this, the ESDIP changed the image of the institution adopting a new logo [Figure 1] and is rebuilding the website (<https://digitalpathologysociety.org>).

The developmental status in the digitization process achieved nowadays is mainly the result of the technological evolution of the slide scanners with the consequent production of diagnostic quality whole-slide images (WSIs) together with the potential of storing terabytes of data and of running image analysis algorithms. However, up to now, only a few pathology laboratories are fully digital worldwide and in Europe

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Figure 1: European Society for Digital and Integrative Pathology logo

specifically,^[2-4] and the digital applications in pathology seem to be almost restricted to educational and research purposes. This is mainly due to the scepticism that pathologists have for the clinical use of the WSIs, to the believed “high cost” to convert a traditional workflow into a digital one,^[5] and to the lack of a European consensus document related to digital pathology. Despite several documents already produced with regulatory function, none of these express the opinion of a multidisciplinary and international team that may represent Europe in all its quadrants. ESDIP is ready to address all these topics, with the strong believe on the collaboration between pathologists, ITs, laboratory technicians, bioscientists, students, physicians from all specialties (including surgeons and oncologists), and industry partners. This international and multidisciplinary approach makes ESDIP a unique society, with possibilities of knowledge exchange that goes beyond the boundaries of other societies.

ESDIP is also ready to integrate industry members into the ESDIP structure. The help of all the stakeholders in the domain is needed to achieve a standardization of the digital workflow as a base for subsequent high-quality and safe pathology procedures. The current ESDIP structure understands that the digital transformation of pathology laboratories encompasses deep modification in the workflow, in the quality assessment program, and in space and time organization, representing a new concept of thinking, functioning, and managing the pathology laboratory.

The movement of digitization is, in its essence, a globalizing movement that promotes connection, such as the one reached by telepathology and teleconsultation, against the isolation tendency that emerged after the COVID-19 pandemic. Cooperation agreements are underway, namely with the Digital Pathology Association, and ESDIP is open to create a connection with other dedicated institutions.

One of the major goals of the new ESDIP structure is also to promote the adoption of the new computer-based image analysis and the use of artificial intelligence (AI) in the daily practice as a computer-assisted diagnosis tool. The image analysis for diagnostic, predictive, and prognostic determinations appears to contribute to the precision of the pathology reports leading to the personalized modern management and treatment of

patients.^[6-10] Moreover, computational pathology, including the application of AI tools, in both research and routine demand, is fostering not only the standardization of the processes but also stimulating ethical and legal questions that need to be addressed. In the European environment, such elementary questions must be addressed in a holistic way, and ESDIP is ready to participate with its strong expert council as well.

With this in mind, the new active structure of ESDIP is preparing regular online workshops and debates on digital and integrative pathology hot topics, in addition to the annual European Congress on Digital Pathology (ECDP), as part of the educational program. The first workshop already happened on November 24, 2020, addressing the implementation of the digital workflow, and was highly appreciated by the members and additional attendees. The next edition of the ECDP will be presented online in June 2021 and it will be an event with parallel activities. In the previous editions of the ECDP, parallel activities included contests with awards to the best poster and the best presentation, DICOM and IHE group meetings, DICOM connectathon as well as challenges to IT teams (e.g., HEROHE challenge). The very structured educational program of ESDIP is designed to benefit all members of ESDIP that have doubled this year, exceeding the 100 members.

ESDIP is putting all efforts to make digital pathology the new standard in pathology, to embrace the third revolution in pathology,^[11] and to demonstrate that digital pathology is per SE “pathology,” including its safety and quality-associated features, taking into consideration that “people and not technology or devices are usually the driving force behind quality.”^[12]

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Conflicts of interest

Catarina Eloy, Norman Zerbe, and Filippo Fraggetta are active members of the European Society for Digital and Integrative Pathology (ESDIP).

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