

## Association for Molecular Pathology Releases Series of Reports Defining Core Bioinformatics Competencies for Clinical Diagnostic Laboratories

*Three interrelated Body of Knowledge papers outline roles and required skills for bioinformaticians with respect to molecular diagnostics, clinical bioinformatics, clinical laboratory regulation and data security*

**ROCKVILLE, Md. – May 27, 2025** – The Association for Molecular Pathology, the premier global molecular diagnostic professional society, today announced the release of a three-part series of scientific papers outlining the essential bioinformatics roles, responsibilities, and competencies for professionals working in clinical molecular diagnostic laboratories. The series, titled “Clinical Bioinformatician Body of Knowledge: A Report of the Association for Molecular Pathology,” was published online ahead of print, and the full text is freely available in *The Journal of Molecular Diagnostics*.

The Body of Knowledge series represents the collaborative work of three subject matter expert working groups convened by AMP. Each paper focuses on key domains required for a bioinformatician to function successfully within a molecular diagnostic laboratory and is based upon the published scientific evidence, available resources, established clinical practices, and expert consensus opinions of the working groups. AMP plans to periodically review and update the framework to ensure that it remains relevant and actionable.

The three core knowledge areas covered in this series are as follows:

- **Molecular Diagnostics**: A comprehensive overview of key concepts in molecular biology, genetic variation, molecular diagnostics methodologies (with an emphasis on next-generation sequencing) and best practices in clinical laboratory operations
- **Clinical Bioinformatics and Software**: A detailed look at the stages of a clinical bioinformatics pipeline development, validation, and deployment, including associated skill sets and software development best practices required throughout the process
- **Clinical Laboratory Regulation and Data Security**: An examination of relevant regulatory requirements and best practices related to data security in laboratory environments, including hardware, software, networks and interoperability

Somak Roy, M.D., is the chair of AMP’s Clinical Bioinformatician Body of Knowledge Steering Committee and an associate professor and the director of molecular pathology at Cincinnati Children’s Hospital Medical Center. “This Body of Knowledge project is part of AMP’s ongoing commitment to creating evidence-based educational resources to help make clinical molecular diagnostic laboratories more successful,” said Roy. “Currently, there is a limited number of bioinformatics training programs for clinical molecular diagnostic laboratories, and this often leads to confusion regarding the specific roles and responsibilities of professionals in these positions. Our goal is to help clarify expectations and support workforce development in this evolving field.”

To read AMP’s perspective article on the complete Body of Knowledge series, please visit [https://www.jmdjournal.org/article/S1525-1578\(24\)00315-5/fulltext](https://www.jmdjournal.org/article/S1525-1578(24)00315-5/fulltext).

**ABOUT AMP**

The Association for Molecular Pathology was founded in 1995 to provide structure and leadership to the emerging field of molecular diagnostics. AMP's 3,100+ members practice various disciplines of molecular diagnostics, including bioinformatics, infectious diseases, inherited conditions and oncology. Our members are pathologists, clinical laboratory directors, basic and translational scientists, technologists, and trainees who practice in a variety of settings, including academic and community medical centers, government and industry. Through the efforts of its Board of Directors, Committees, Working Groups and Members, AMP is the primary resource for expertise, education and collaboration in one of the fastest-growing fields in healthcare. AMP members influence policy and regulation on the national and international levels, ultimately serving to advance innovation in the field and protect patient access to high-quality, appropriate testing. For more information, visit [www.amp.org](http://www.amp.org) and follow AMP on X: [@AMPath](https://twitter.com/AMPath).

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