

Nanoscience-driven biodosimetry supporting ionizing radiation metrology

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Among the CIRMS mandates is the production of a Needs Report, which has recently transformed into a living database of critical and/or missing measurements to support the users of ionizing radiation across academia, industry and government. While core sectors within this framework—medical applications, radiation protection and radiation processing—operate at wildly different scales i.e., dose and outcomes, there are core elements which tie these needs together, specifically the requirement that accurate and actionable information can be extracted from the measurements supporting the processes. This poster will highlight work done between the microsystems and nanotechnology division and the radiation physics division to demonstrate how advances in nanofabrication and nanomanufacturing are enabling unique and transferrable measurements to address dosimetry needs across the ionizing radiation industries.