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Spreading Information of the '3rd Age' of Ultrafast Imaging

Dr. Gabriel C. Spalding

Ames Professor of Physics

Illinois Wesleyan University

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We are entering the '3rd Age' of high-speed imaging. The first age was limited by the *inertial* response of a mechanical shutter. The second age bypassed that limit via *electronic* shuttering (turning circuitry on and off). The new era is demarked by essentially optical shuttering techniques. We demonstrate a variety of effects that have quite general consequences illustrating, for example, that it is not possible to unambiguously determine the kinematics of an event from imaging and time-resolved measurements alone. Nevertheless, the new age of photonic imaging promises to open entirely new worlds of possibilities for inquiry and explanation.



Professor Spalding received his Ph.D. in Applied Physics from the Harvard School of Engineering and Applied Sciences. He is a Fellow of the American Physical Society, of SPIE, and of AAPT. He served as the first President of the Advanced Laboratory Physics Association (ALPhA), continues to serve on its Board of Directors, is PI on its current NSF support, and leads ALPhA's efforts to disseminate equipment for single-photon quantum mechanics. He is also Vice-President of the non-profit Reichert Foundation



For additional information contact: Dr. Sonja Franke-Arnold Sonja.Franke-Arnold@glasgow.ac.uk