



**Bryan J. Rice**  
**Director of Lithography**  
**SEMATECH**

Bryan J. Rice is currently the Director of Lithography at SEMATECH on assignment from Intel Corporation.

Rice, 40, received his B.S. in Physics and an M.S. in Computer Science from the Georgia Institute of Technology in 1991. After a one-year appointment as a Researcher Assistant for Britain's House of Commons, he enrolled in a doctoral Physics program at Duke University, completing his Ph.D. in 1998 under Professor Henry Weller studying nuclear astrophysics and medium energy particle physics.

Dr. Rice joined Intel Corporation's Portland Technology Development Division in 1998. His initial assignment was I-line lithography where he developed Intel's Cu-based dual-damascene interconnect process. Later, Rice worked on Intel's first production 193 nm lithography tools, aiding in the creation of Intel's inaugural 193 nm lithography process.

In 2002, Dr. Rice joined Intel's Components Research Division. During the next four years he worked with lithography tool manufacturers and EUV source suppliers to remove roadblocks to the development of EUV lithography technology. In addition, Rice was in charge of formulating Intel's strategic roadmap for critical dimension lithography metrology. He worked closely with metrology companies to match Intel's needs and the metrology industry's capabilities.

Rice became Immersion Lithography Program Manager at SEMATECH in 2006. He led SEMATECH's high index immersion research in the search for high refractive index lens and immersion fluid materials. Additionally, Dr. Rice formed SEMATECH's double exposure program, focusing on the exploration of novel materials for the litho-litho-etch patterning approach.

In 2008, Dr. Rice became Lithography Director for SEMATECH. The lithography division has active programs in EUV lithography, immersion lithography, and alternative lithography. Under his leadership SEMATECH has successfully launched the Resist and Materials Development Center as the world's preeminent EUV imaging resource, increased the number of SEMATECH lithography program members from one to nine,

and created the EUV Mask Infrastructure (EMI) Partnership to focus industry-wide investment in critical EUV tool development activities.

Dr. Rice is the author of numerous publications on lithography and metrology. He holds eleven United States patents.