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Introduction

Welcome to the 12th conference on Emerging Lithographic Technologies. In this volume, you will find papers describing exciting developments in several fields.

First, in the EUV Lithography community, we are pleased to present results from the first EUV alpha-tool, installed at Selete, IMEC, and Albany. Not merely first exposures, but also the first full-field wafer results are presented. This first silicon demonstration represents a major milestone in the history of EUV technology, and a necessary step on the route to large volume manufacturing. This step is necessary but not sufficient, as many of the papers here illustrate. There are still many challenges facing EUV, including source power, resist characteristics, and mask defectivity. Significant progress has been made in all areas, and the progress reports are presented here.

Other patterning options are, however, not quite yet ready for retirement. E-Beam lithography, especially arrayed multiple-beam architectures, have also shown significant milestones and may be especially useful for small volume and prototype manufacturing. Nanoimprint technology is finding utility for other areas, most notably patterning media for magnetic storage. With the knowledge developed from these applications, the challenges we face in applying nanoimprint to IC technology may be overcome faster than expected.

The technologies that are explored in this conference, however, do not always "emerge" into mainstream CMOS manufacturing, and some techniques that have "emerged", such as immersion lithography, were not discussed in this conference. Therefore, the majority of our Program Committee and I have elected to make a change to our name. Next year, look for this conference to be re-titled as "Alternative Lithographic Technologies".

This conference is "alternative" in several ways. It is, of course, a forum for "alternatives" to optical lithography in manufacturing, such as EUV. However, we also want to embrace patterning for "alternative" technologies, such as the storage, LED, and energy (solar) industries. We hope these sessions will grow as these new applications for nano-patterning develop in their fields.

I think you will be impressed by the strength and diversity of the work presented here. Of course, this would not be possible without the help of my Co-Chair, Bruno LaFontaine of AMD, the conference Program Committee, and of course, the staff of SPIE. I thank them especially for making this conference a success.

Frank Schellenberg