

### Matching Technology for Printed Electronics

신기현\*

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Recently, the life paradigm of human being has been dynamically transformed into the one that is heavily dependent on mobile devices like smart mobile phones and computers. These devices are required to be lighter, more flexible, and cheaper than ever. Roll-to-roll printed electronics are being thought as an emerging counterproposal to these requirements for mobile devices.

However there are many issues related to the roll-to-roll printed electronics including web handling, drying, register control, patterning, inks, substrates, roll-to-roll control systems etc. But one of most important issues in the roll-to-roll printed electronics might be the matching technology among the ink, pattern, substrate, and roll-to-roll system itself.

In this presentation, several technologies for matching will be suggested. Mathematical models and experimental approaches are introduced in order to develop matching logics which will define inter-relationships among parameters among ink formulation, pattern geometry, surface conditions of substrates, and operating conditions in the roll-to-roll printing systems.