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Paper Inside? - New Thinking for Biochip and Other Applications ANDREW STECKL, University of Cincinnati — The drive to improve the performance and reduce the cost of electronic, photonic and fluidic devices is starting to focus on the use of materials that are exotic for these applications but actually readily available in other fields. In this talk the use of paper in biochip and other applications will be reviewed. Paper is a very attractive material for many device applications: very low cost, available in almost any size, versatile surface finishes, portable and flexible. From an environmental point of view, paper is a renewable resource and is readily disposable (incineration, biodegradable). Applications of paper-based electronics currently being considered or investigated include biochips, sensors, communication circuits, batteries, smart packaging, displays. The potential advantages of paper-based devices are in many cases very compelling. For example, biochips fabricated on paper can use the capillary properties of paper to operate without the need of external power sources, greatly simplifying the design and reducing the cost. For e-reader devices, in addition to flexibility, the ideal solution for providing the look-and-feel of ink on paper is to have *e-paper on paper*.

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