



Questioned Documents Section – 2007

J3 An Image Processing Method Purported to be Useful in the Detection of Image Manipulation

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After attending this presentation, attendees will understand a technique purported to detect manipulation of digital images.

This presentation will impact the forensic community and/or humanity by providing awareness of a method potentially useful in the detection of fraudulent manipulated digital images.

While researching a *Daubert* decision on the web an article surfaced discussing the disgraced South Korean stem cell researcher accused of a hoax in connection with a cloning project. A link ultimately led to an intriguing *New York Times* article concerning "photo- manipulation." This paper will explore simple techniques found to be of value in detecting image manipulation by the editors of *The Journal of Cell Biology*. The editors of this web based journal discovered that 25 percent of all manuscripts accepted for publication contained one or more illustration images had been manipulated. It was reported that most cases were resolved upon analysis of original images, however, one percent of the authors were "engaged in fraud." This paper will report on the evaluation of these simple techniques used to test electronic image integrity. It appears that the editors of *The Journal of Cell Biology* may have sparked a controversy in the scientific journal arena. According to the *Times* article the journal *Science* has incorporated *The Journal of Cell Biology's* techniques and guidelines for authors concerning digital images. It was reported that the editor of the journal *Cell* is of the belief that it is an ethical matter for the submitting scientist and not the place for editors to police their data. This paper will explore the possibility of using the techniques described by the Executive Editor of *The Journal of Cell Biology* to determine image manipulation for only electronic images but images printed from electronic images.

Questioned Documents, Digital Image Manipulation, Image Processing