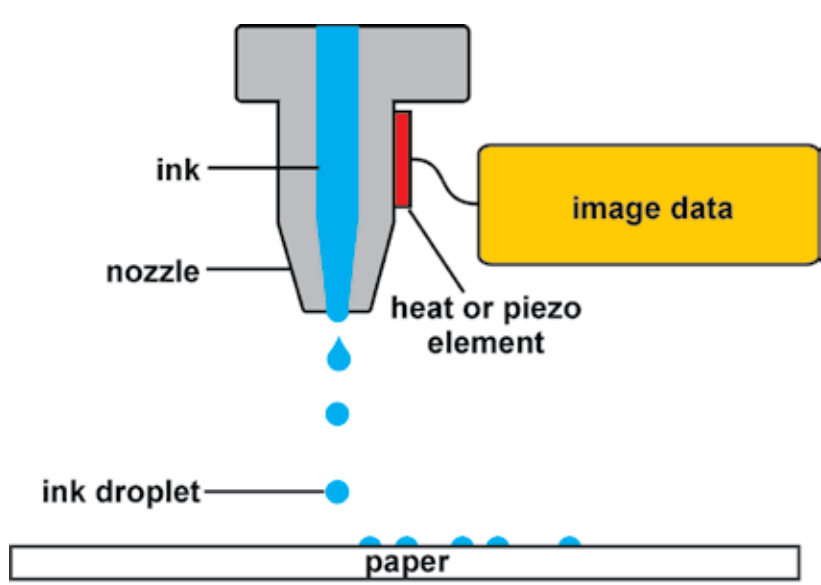
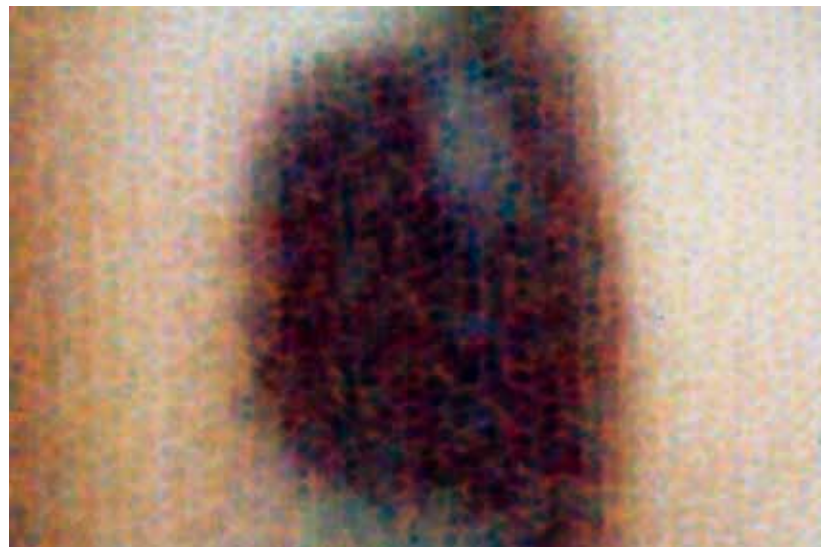


The DP3 Project: Digital Print Preservation Portal
By Daniel Burge, Senior Research Scientist, Image Permanence Institute at the Rochester Institute of Technology

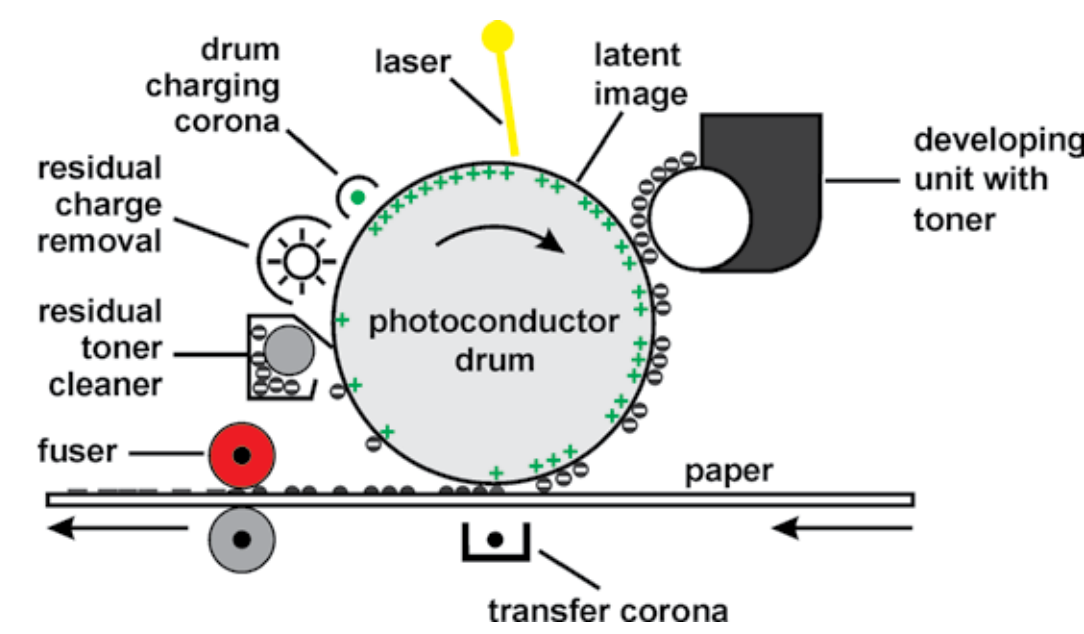
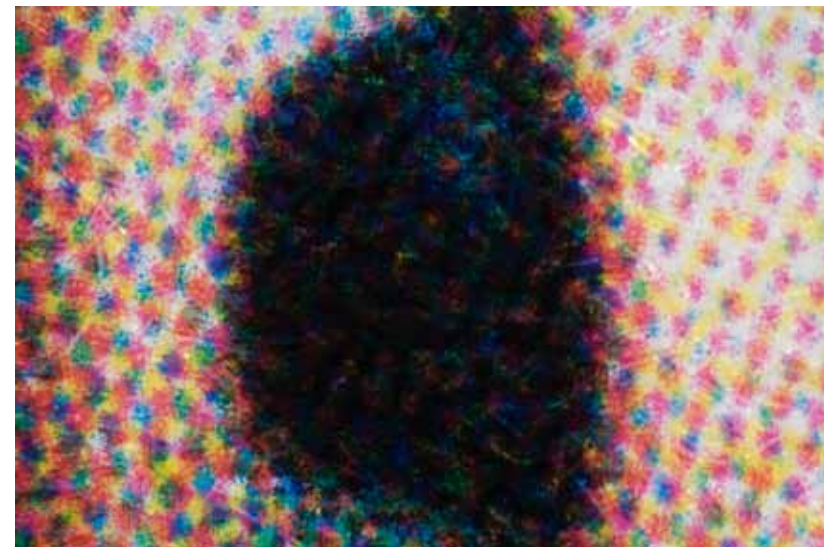
ABSTRACT

The Image Permanence Institute at the Rochester Institute of Technology is currently creating their Digital Print Preservation Portal (DP3). The goal of this project is to provide science-based information to archivists to aid them in understanding and caring for modern digitally printed materials – inkjet, dye sublimation, and electrophotographic. In order to meet this goal, IPI is conducting extensive research into the effects of environmental forces – heat, moisture, pollution, and light – on the long-term stability of these objects. Additionally, IPI is investigating potentially harmful chemical and physical interactions between these materials and common enclosures used in archives. Finally, work is also being performed to understand the sensitivity of these materials to water damage as caused by flood. The result of the above research will be distilled into recommendations to archivists on the care and handling of these new materials. The project findings and additional information will be presented on a unique website, DP3Project.org. The site will also provide descriptions of the technologies, a historical time line, a glossary, and an interactive identification tool to help archivists recognize these materials in their collections.

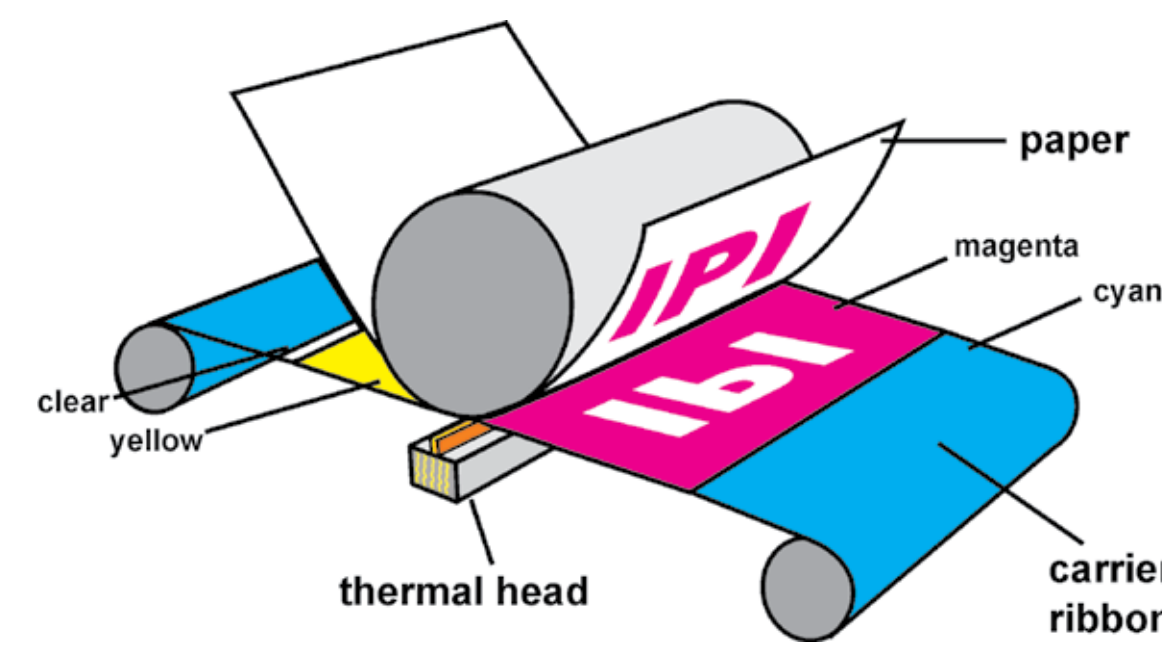
Inkjet



Electrophotographic



Dye Sublimation



APPROACH

The general approach to the experimental work was to expose a variety of digitally printed materials as well as traditionally printed materials to elevated levels of the types of stressors known to cause damage to both these materials. In some cases there were ISO standard methodologies or well-established methods in the literature that could be directly applied. In other cases, existing methods needed to be modified or improved.

The printing technologies under investigation were:

- Inkjet (both dye and pigment)
- Electrophotography (B&W and color)
- Dye sublimation
- Traditional color photographs (AgX)
- Digital press (liquid- and dry-toner)
- Offset lithography



Abraded Inkjet Pigment Print



Water Damaged Dye Sub Print

These were subjected to the following stresses:

- Heat
- Light
- Pollution
- Humidity extremes
- Various enclosures
- Abrasion
- Flexing
- Flood



Light Faded Inkjet Print



Blocked Digital Chromogenic Print

RESULTS

The most significant thing learned so far is that not all digital print types share the same sensitivities and vulnerabilities. This will unfortunately lead to care recommendation specific to print types. This will also require good ID skills on the part of archivists. For example, pigment inkjet prints are extremely sensitive to abrasion, while color electrophotography is fairly resistant. The former should be stored separately in polyester sleeving, while the latter can be stacked without enclosures.

CONCLUSIONS

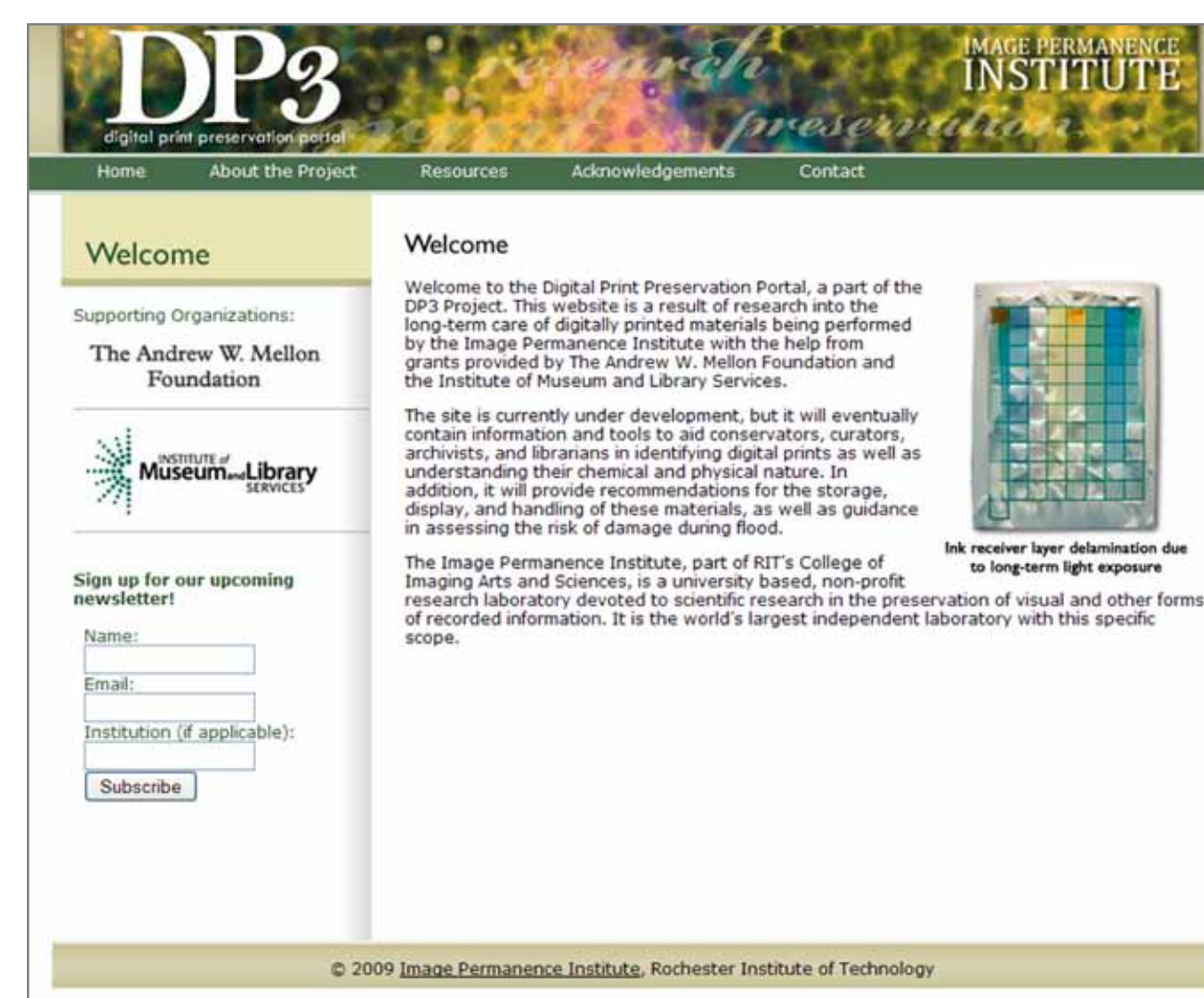
- Digital prints all have their own sensitivities and vulnerabilities to deterioration forces
- Digital prints may need different care strategies
- Digital prints will not always need the same care strategies as traditionally printed materials

WEBSITE

As the primary form of dissemination for the experimental research findings, IPI is creating a free, online web portal that provides institutions with a wide-range of critical information regarding the care of the digitally printed objects in their collections.

The site will contain:

- Education on the various digital printing technologies
- Keys to print identification
- Descriptions of print deterioration
- Print care recommendations
- Bibliography
- Glossary
- FAQ
- Links



RESEARCH RESULTS BIBLIOGRAPHY

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Visit the project website:

<http://www.dp3project.org>