

<b><u>Subject</u></b>	<b>Image dependant adaptive Black Point Compensation</b>
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**Details of the subject :**

Océ Print Logic Technologies has the constant objective to enhance the quality of the printed documents. The goal of this internship is to conceive an image dependant adaptive black point compensation algorithm. Gamut mapping algorithms consider the input device color gamut and the output device color gamut.

Some gamut-mapping algorithms are said to be adaptive when they also consider some of the image characteristics such as the image type, histogram, contrast or gamut. Recent techniques consider the image layout and the spatial features. They keep track of the spatial features and try to preserve them in the rendering process.

In the ICC workflow, the color conversion algorithm consults the ICC profiles of the two devices (the source device and destination device) and the user's rendering intent (or intent) in order to perform the conversion. Although ICC profiles specify how to convert the lightest level of white from the source device to the destination device, the profiles do not specify how black should be converted. The user observes the effect of this missing functionality in ICC profiles when a detailed black or dark space in an image is transformed into an undifferentiated black or dark space in the converted image. The detail in dark regions (called the shadow section) of the image can be lost in standard color conversion.

The goal of this study is to conceive an algorithm that automatically decides whether to apply BPC based on the image. The intern will be part of the research and innovation team.

**Required Knowledge :**

Color Science and Color Management, Image Processing, Matlab, Fluent English

**Requirement of the internship :**

**Duration :** 2/3 months       4 months       5 months and more

**Beginning :**

**Place :** Créteil (Val de Marne)

**School :**

**Engineer Schools:**

1st Year       2<sup>nd</sup> Year       3<sup>rd</sup> Year

**University :**

Professionnal Master 2       Research Master 2       Master 1

Licence 3

Licence 2

Licence 1

***If you are interested by this internship, please send your curriculum and your application letter to the following e-mail address:***

[nicolas.bonnier@oce.com](mailto:nicolas.bonnier@oce.com)