**SGN-31007 Advanced Image Processing**

**Bonus exercise, 07.02.2018**

**Problem 1 (3 points)**

Digital photo and video cameras use a mosaic arrangement known as Bayer pattern of photo-sensitive elements. In order to have a "full-color" digital image containing all 3 basic components (R,G,B) a demosaicing process is required.

In this problem, your task is to implement the simplest method of demosaicing - linear method with independent interpolation of each color plane [1]. You may also implement any other method described in [1] or develop your own. In addition, you must describe in few sentences the Bayer principle and the method used for demosaicing. Everything necessary to solve this question is provided: *rawImg* is the variable name of your input image and *imgRef* is an example of the expected output. You are not allowed to use **demosaic** function of Matlab in this task.

**Problem 2 (3 points)**

This task will be provided in our exercise session and you must solve it there.

# References

[1] A. Lukin, and D. Kubasov, *An Improved Demosaicing Algorithm*, Graphicon, 2004.