# Assignment 1: Image quality evaluation

While it is nearly effortless for humans to quickly assess the similarity between two images, the underlying processes are thought to be quite complex. The assignment is dedicated to comparison of the properties of the following metrics (MSE, PSNR, SSIM and LPIPS (optional bonus)) for different types of image distortions.

## Task 1. Preparation of image dataset

Collect the dataset of 4 images of different sizes (256x256, 512x512, approx.1000x1000, approx. 2000x2000).

## Task 2. Generate the distorted image datasets

For the given dataset of original images (Task 1) generate datasets with following distortions:
1) JPEG compression (2 values).
2) Gaussian noise (2 values)

## Task 3. Evaluate image quality

Perform the evaluation of the quality of distorted image using following metrics:
1) MSE
2) PSNR
3) SSIM
4) LPIPS (optional bonus)

Zhou Wang, A. C. Bovik, H. R. Sheikh and E. P. Simoncelli, "Image quality assessment: from error visibility to structural similarity," in IEEE Transactions on Image Processing, vol. 13, no. 4, pp. 600-612, April 2004,
Zhang, Richard, et al. "The unreasonable effectiveness of deep features as a perceptual metric." Proceedings of the IEEE conference on computer vision and pattern recognition. 2018.

To complete all results into report and submit it (together with your code) to "Digital forensics" course moodle.