



ERCIM "ALAIN BENSOUSSAN"
FELLOWSHIP PROGRAMME



Scientific Report

First name / Family name

Min-Ho / Jung

Nationality

South Korea

Name of the *Host Organisation*

Norwegian University of Science and Technology

First Name / family name
of the *Scientific Coordinator*

Jean-Baptiste / Thomas

Period of the fellowship

01/11/2019 to 31/10/2020

I – SCIENTIFIC ACTIVITY DURING YOUR FELLOWSHIP

- To design specific experiments to visually assess according to two kinds of surface finishing on glint materials.
- -Design and make the tilting table for visual assessment and angle measurement
- -Make one eye cover glasses for focusing the psychophysical experiment of monocular vision
- To find out and verify the difference between stereoscopic and monocular vision in terms of appearance of glint materials.
- To develop the image acquisition to mimic stereoscopic vision.
- -Design illumination set up
- To develop computation models to predict the appearance of the glint plastic panels.

In process

- Digital imaging process for analysis of the effect of two kinds of viewing modes and surface finishing on glint.
- Two journal papers based on the result from the psychophysical experiment and digital imaging process.

II – PUBLICATION(S) DURING YOUR FELLOWSHIP

Title: Effect-coating Glint According to Binocular and Monocular Vision

Authors: Min-Ho Junga, Jean Baptiste Thomasa, Marius Pedersena, Vien Cheungb, Peter A. Rhodesb

References:

- ASTM E2194-14. 2017. Standard Practice for multiangle color measurement of metal flake pigmented materials. ASTM International, West Conshohocken, PA, 2017
- Cui, G., Luo, R. Rigg, B. 2002. Crispness effect on lightness differences. 9th Congress of the International Colour Association, Rochester, NY, United States
- Jung, M. 2015. Modelling the total appearance of gonio-apparent surfaces using stereo vision. PhD Thesis, University of Leeds, UK.
- Kirchner, E., van den Kieboom, G.-J. & Supèr, R. 2008. Accurate measurement of sparkle for effect coatings. In: AIC 2008 Effects and Affects, Proceedings of the Interim Meeting of the International Colour Association, Paper #012, Stockholm, Sweden.
- Kitaguchi, S. 2008. Modelling texture appearance of gonioapparent objects. PhD Thesis, University of Leeds, UK.

Abstract:

This study investigates the impact of two kinds of viewing conditions in glint perception for physical samples. The first aim is to verify how perceptual glint is influenced by two visual modes of observers: binocular and monocular vision. The second is to identify the difference in glint perception between two kinds of surface finishing: rough and smooth. A psychophysical experiment was conducted using 11 glint samples. They were assessed under four conditions which are the combinations of two visual modes and two physical conditions. The data of experiment results was statistically analysed by interpreting the box plot and verifying the results using sign test. The perceptual glint was assessed highly when a sample has bigger glint flake size on smooth surface by binocular vision rather than on rough on monocular.

-Proceedings of the AIC international Meeting, Avignon, France-

III – ATTENDED SEMINARS, WORKHOPS, CONFERENCES

1. As oral presenter, International Colour Association Conference 2020, 26-28th November, 2020 in Avignon, France
2. As audience, Colour and Visual Computing Symposium, 16-17th September in Gjøvik, Norway
3. As audience, Material Appearance 2020 conference of Society for Imaging Science and Technology, 7th October

IV – RESEARCH EXCHANGE PROGRAMME (REP)

Because of the COVID-19 situation and the countries travel restrictions, I gave the research exchange programme up.