



SIM2 HDR46 Platform

Domenico Toffoli, R&D Director and High Dynamic Range Imagery Business Developer at Sim2 multimedia S.p.A presented their HDR displays and the plans for the future generation products. Domenico stated that the quality improvement and cost efficiency are their main criteria in order to design a commercially successful device.

Domenico offered very valuable technical details regarding the behavior and capabilities of their current product (HDR47E), as well as the interfaces and operation modes that make it suitable for engineering, research, imaging, etc.

Next Training School in Crete

The next Training school hosted by the HDRi Cost action will be held in Crete (Greece) from 21/09/2013 to 24/092013.

The course is specially recommended to students or professionals who want to learn about the fundamentals of the HDRi imaging and related processes such as tone mapping, its applications in the industry etc.

The programme of the training school will be published in: <http://www.ic1005-hdri.com/>

HDRi 2013: First International Conference and SME Workshop on HDR imaging (April 2013)

This COST Action IC1005 (HDRi) assembles leading academic and industrial researchers and practitioners to propose a set of standards for the complete HDR pipeline and establish Europe firmly as the world leader in HDR. The initiative is also being supported by big industry players.

HDRi aims to focus in the HDR video production pipeline and its Working Groups are organized according to this fact: Capture, Manipulation, Delivery and Adoption of Standards & Uptake.

The specification and support of a standard for HDR video, as well as the provision of reference resources for developers and scientist are the main objectives of HDRi.



Raphael Checkroun (Flickr)



HDR nVidia and The Future

Pete Shirley. Principal Research Scientist at nVidia offered a very interesting talk with a combined vision about technology and market. Pete described the complex ecosystem among the big players such as Google, Apple, Microsoft, Facebook, Intel, Amazon, etc. and stressed that many times the main competitors are not the most obvious ones.

The capabilities of nVidia chips and their potential for HDR was also part of the presentation. The unclear commercial future of HDR and the lack of content were two of the main points mentioned by Pete as key current barriers for the progress of this technology.

The high power requirements of HDR displays was also cited as one of the main drawbacks for commercial massive deployment of such devices.

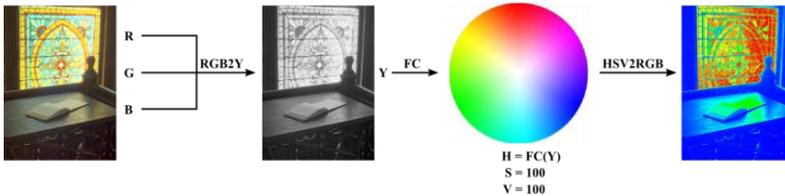
Best Paper Award of HDRi 2013: "False color visualization for HDR images"

The First International Conference and SME Workshop on HDR imaging awarded "Best Paper" to Ahmet Oguz Akyüz from Middle East Technical University in Turkey, for his paper entitled: "False color visualization for HDR images".

The paper explores new methods of HDR visualization for scene analysis and understanding. Disciplines such as paleontology, archeology, structural engineering, architecture, medical imaging and forensics are activities where the use of digital images for scene analysis is prevalent and could obtain a great benefit from the use of HDR images.

A general framework to visualize HDR images using false colors based on pixel luminances and experiments with several simple false coloring functions are described in this paper. Moreover, the authors evaluated the effectiveness of the different functions through a small user study.

Experimental tests carried out with 14 users showed that sigmoidal compressions is the best method for conveying a luminance distribution in a given scene. However, the authors also found that the effectiveness of each strategy depends on the dynamic range of each specific scene.



The high level view of the HDR false coloring framework



Pete Shirley presenting Oguz with his award



Traditional Portuguese music to entertain the participants

HDRi Web Page

<http://www.ic1005-hdri.com/>

Visit us at our web page where all the last news, resources and publications are available.

General HDR related news and white papers will also be published on the web page..

More information can be obtained by contacting the Chair of the Action:

[Prof. Alan Chalmers](mailto:alan.chalmers@ic1005-hdri.com)



Host of the Conference: INESC Porto

INESC Porto -Institute for Systems and Computer Engineering of Porto- is a private non-profit association, recognised as a Public Interest Institution and an Associate Laboratory since 2002.

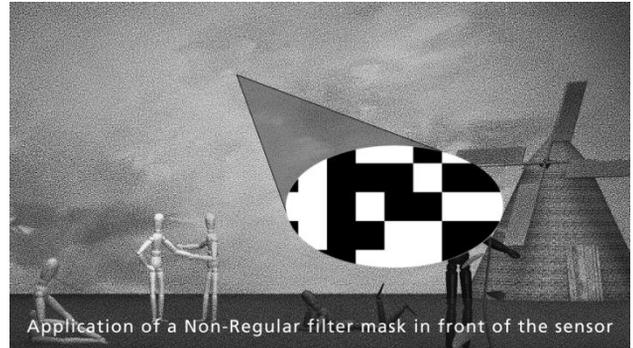
INESC Porto invests in Scientific Research and Technological Development, as well as in Advanced Training and Consulting, Technology Transfer and supports the Establishment of new Technology-based Companies.

INESC Porto is guided by the following criteria: innovation, internationalisation and social and economic impact and aims to form a group of strategic partners that can guarantee the institution's stability and economic sustainability.

http://www2.inescporto.pt/ip-en?set_language=en&cl=en

High Dynamic Range by non-regular sampling – Moving pictures at any lighting level

In the context of the HDRi COST action (IC1005), Fraunhofer IIS has developed a new way of HDR imaging technology, which helps to improve image recording under normal day-light conditions. The IIS method called non-regular sampling allows, thanks to specially developed algorithms, for recording with only a single shot a high dynamic range between the brightest and the darkest areas of the image. A great advantage of this method is that cameras with this recording technology can optimally capture scenes under challenging lighting conditions such as extremely bright light or deep shades. This HDR recording method provides a lot of creative headroom for post-production because the complete dynamic range of the scene can be used.

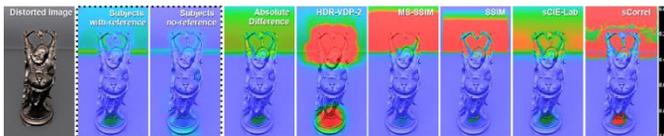


During the last IBC trade show in Amsterdam, Fraunhofer IIS exhibited a corresponding prototype illustrating the capabilities of the developed technology. The principles were presented by Joachim Keinert (Joachim.keinert@iis.fraunhofer.de) to the audience during the IBC conference in the session on cutting edge technologies entitled “Featuring High Dynamic Range Video”. The corresponding paper with the title “High Dynamic Range video cameras based on single shot non-regular sampling” is accessible in the journal “The Best of IET and IBC, 2013, Vol. 5, pp. 31–37” (<http://www.theiet.org/communities/multimedia/ibc/2013.cfm>).

More information can be also be found on the following web site:
<http://www.dcinema.fraunhofer.de/en/veranstaltungen/IBC20121/movieproduction.html>

Max Planck Scientific Contributions to HDR

Martin Čadik et al. (MAX Planck Institut <http://www.mpi-inf.mpg.de/>) recently presented three new contributions to the field of HDR: “Learning to Predict Localized Distortions in Rendered Images”¹, “New Measurements Reveal Weaknesses of Image Quality Metrics in Evaluating Graphics Artifacts”² and “NoRM: No-Reference Image Quality Metric for Realistic Image Synthesis”.



¹<http://www.mpi-inf.mpg.de/resources/hdr/metric/>

²<http://www.mpi-inf.mpg.de/resources/hdr/iqm-evaluation/>

³<http://www.mpi-inf.mpg.de/resources/hdr/norm/>

Training School in Crete (September 2013)

Preceding the HDRi Cost Action meeting, a training School on HDR will organized in Heraklion hosted by FORTH Institute of Computer Science (<http://www.ics.forth.gr/index.html>). HDR experts of the HDRi Consortium will introduce important topics in HDR imaging.



The course will cover general aspects such as the introduction the HDR technology into the market, and more scientific views including illumination models, tone mapping, the relationship between physical measures of HDR images and the Human Visual System (HVS) etc.

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