“Science and art belong to the whole world, and before them vanish the barriers of nationality” (J. W. Goethe)

When Fogra was founded in 1951 by 25 far-sighted businessmen, German printing was on the verge of a long period of development and prosperity. The then name, the “Deutsche Gesellschaft zur Förderung der Forschung im graphischen Gewerbe” (“German Association for the Promotion of Research in the Graphic Arts”) was self-explanatory and the Institute focused exclusively on the German market.

Today, almost seven decades later, Fogra is now active internationally and is well-regarded around the world, not least in the field of standardization; whilst the 25 founder members have grown to some 900 from 50 different countries.

Now, as then, Fogra carries out joint research to meet the needs of medium-size printing and media companies, and disseminates the results to all through training courses and symposia or, in a more direct way, through testing and certification.

Today, few printers would say they are looking forward to a similar age of development and prosperity. The market situation has become more challenging even for a research institute such as Fogra. Internationalization has not therefore been merely a natural and logical step, it has also made it possible to continue to finance the extensive laboratory equipment and scientific specializations that are required.

It is with some pride that we can report that this international outlook is reflected in Fogra’s own staff. Our employees speak six different mother tongues and are able to converse in several other languages so as to ensure we are able to keep closely in touch with our members.

We therefore feel that we are well prepared for drupa 2020 and we are already looking forward to meeting people from all around the world – in other words, you.

However, we mustn’t close the year without thanking all our donors and those who give their time to us on our technical committees or in support of other activities. We would also like to bid a warm welcome to this year’s 24 new members and at the same time to thank our many loyal members for their long-standing support.

We wish you every personal and professional success for the new year.

Stefan Aumüller
Chairman of the Board

Dr Eduard Neufeld
Managing Director & Institute Director
New Fogra research report

Consistent Colour Appearance – Development of an evaluation method for colour reproductions produced via different output channels

Consistent Colour Appearance (CCA) expands the established visual evaluation of two colour specimens to include the simultaneous viewing of several reproductions of a single original. Several different reproductions of a single original produced via different output channels exhibit a consistent colour appearance when an observer directly comparing these images with each other perceives them as matching or as consistent.

In this research project a colour psychology experiment was used to prove that consistent colour appearance is statistically measurable. With suitable test images it was possible to show that different, in some cases ICC-based, approaches could convert colours from a reference via different output processes (“Gamut-Mapping”) in such a way that the results are statistically significantly different from each other.

This means there is now an additional, practical tool for visually evaluating the consistency of multiple reproductions where there are excessive colour differences.

The project (IGF No. 19348N) was funded by the German Ministry of Economic Affairs’ programme for the support of Joint Industrial Research.

Fogra members receive Fogra reports free of charge and can download them by registering and then logging in to the Fogra website. Non-members are charged for reports.

Download from: www.fogra.org/en/publications/

Fogra is delighted to introduce two new employees, who will also be able to advise you in French and Chinese.

Dr Julie Klein

Julie Klein, born in Haguenau (France), studied general engineering at Strasbourg and Marseilles and then electrical engineering and IT at the Technical University of Munich. After a dissertation on the segmentation of welding process images she embarked on a doctorate in the image processing department of RWTH Aachen, working in the field of multi-spectral technology. There she focused in particular on the colour accuracy of various different types of multi-spectral cameras and camera systems and the analysis and correction of the aberrations that occur in filter wheel cameras. She then worked on various public transport IT projects. Since May 2019 she has been working in Fogra’s Prepress department. Her current work includes expert opinions on colourimetry or screening and certifications such as Print Check or Softproofing Monitor. She is also focusing on projects in 3D printing, together with the capture of 3D data using a 3D scanner, and their representation via softproofs with the aim of ensuring accurate colour throughout the entire process chain. Discovering colourimetry from the viewpoint of the printing industry has been an eye-opener for her and she is looking forward to further challenges at Fogra.

Yuan Li

Yuan Li, born in Beijing (China), studied German for her first degree at the Capital Normal University in Beijing and she then worked as an interpreter and translator in a range of industries. In 2015 she decided to deepen her knowledge of a technical field and she began a printing and media technology degree at the University of Applied Science, Stuttgart. During her course she focused on colour management and packaging printing, and spent her first period of time at Fogra on an internship in 2017. She completed her studies in 2019 with a Bachelor thesis on the subject of “The Investigation and development of alternative substructures in flexo printing” and she then joined Fogra’s Prepress department in April 2019. Her primary roles include working on research projects in areas such as Multicolor printing as well as Fogra-Cert services in the area of digital printing.

Determination of the chemical composition of the individual film layers of smart cards

The demand for smart card reliability in the debit and ID sector is increasing in step with longer lifespans and more frequent use. As the carrier for the functional electronic unit, the card body plays a fundamental role and must remain intact over the entire lifespan. Amongst other things, this depends upon the correct choice of materials used to form the card sandwich. Up until now there has been no way that customers can check whether the card structure matches the specifications. Fogra has developed a method to resolve this question and with its aid it is even possible to determine the chemical composition of the films located in the interior of a sandwich.

Initially, the layer structure of the sandwich is determined by means of scanning electron microscopy and the thickness of identifiable layers measured. A mill with a very fine adjustment and depth setting then enables the individual layers to be uncovered. Infrared spectroscopy is used to record the spectra and these spectra in conjunction with a database assembled by Fogra allow the polymer materials of each individual layer to be determined.

You can obtain details about this method from a Fogra Extra published beginning of January 2020.

Replica of a single original with seven different gamuts using two different CCA strategies (A and B). Most observers judged strategy A to be less consistent than strategy B.
Fogra goes East
Institute Director Dr Eduard Neufeld visits China

Fogra’s Director, Dr Eduard Neufeld, was invited by the China Academy of Printing Technology (CAPT) to take part in the 10th China Academic Conference on Printing and Packaging on 12th November 2019 in Xian, where he gave the keynote talk on current trends in research with reference to the standardization of print.

Dr Neufeld’s visit was also an opportunity to undertake a tour after the conference of seven leading Chinese printing companies (in four cities). He was therefore able to make on the spot offers of Fogra’s help in solving technical challenges and to advocate the acceptance of ISO standards. Proven Fogra control materials are already being used and represent a first step towards this. The CAPT is already one of Fogra’s PSO partners and its cooperation with us is set to intensify. Our Chinese partners should soon be back in Munich to attend the Fogra Colour Management Symposium or to visit the Fogra stand at drupa in June.

Colour Management Symposium (CMS)

Book by 31.12. to secure your earlybird discount

You are invited to Munich for what will be the seventh time colour management’s leading event has been held. Over two days, the symposium will offer more than 20 talks in an exciting programme that focuses on colour communication, colour accuracy in ECG and digital textile printing. It is aimed at everybody who wants to communicate and reproduce colour professionally.

In keeping with the motto “Matching colour - Matching people”, the International Color Consortium (ICC) will meet at Fogra immediately before the symposium, ensuring that all the “gurus of colour” are on hand. This will be your opportunity to meet international experts face to face and to take advantage of the numerous networking and discussion opportunities.

For full programme and booking information, go to: 

CMS Special:
Digital Print Expert (DPE) training

Become a Fogra DPE after a two-day training course at the Fogra Institute on 10 and 11 February 2020 and combine your stay in Munich with your attendance at CMS 2020 on 12 and 13 February.

Further information and registration on, 
www.fogra.org/en/dpe/

Download Tip:
ISO News 26 | Standardization
Dr Uwe Bertholdt and Dr Andreas Kraushaar report on the discussions and results of the TC 130 meetings held in Levi, USA, in late October 2019.