

The Sigmedia group (www.sigmedia.tv) has grown in recent years now involving 6 academics : Prof. Anil Kokaram (Video), Prof. Naomi Harte (Audio), Dr. Francois Pitie (Video), Dr. Hossein Javidnia (Video) and Dr. Nils Peters (Audio). There are currently about 17 PhD students and 4 Research Fellows in the team. It has a history of strong collaboration with Industry (particularly in the video/cinema space) starting with consulting and joint EU projects with The Foundry (<https://www.foundry.com/>) since 1998 and expanding to picture quality research with Google/YouTube and now the AOMedia Alliance (aomedia.org). Two spin outs from the group, GreenParrotPictures and Thrive, were acquired by Google in 2011 and 2015.

EU Project Emerald brings together six partners across Europe (including broadcasters and technology developers) to create energy efficient technologies for cinema production. At the October 2024 Society of Motion Picture and Television Engineers conference in Los Angeles, Sigmedia presented its work on Virtual Production with Disguise <https://www.disguise.one/en>. Virtual Production is now popular for immersing actors in realistic worlds allowing shooting the complete scene on set without greenscreen (e.g. in the making of the Mandalorian). The Sigmedia group showed that it is possible to reduce the data rates of those images by a factor of 20 without affecting the quality of the final shot! This makes the workflow faster and more energy efficient.

Sigmedia's work with the YouTube Media Algorithms team since 2011 has spanned the breadth of video quality research in media streaming. This has been sponsored by a long running donation to the laboratory since that time.

In 2024, PhD student Darren Ramsook placed 3rd in the international challenge for AI compression algorithm development. His work shows how existing video standards can be used alongside clever picture enhancement to reduce the bandwidth needed for streaming.



Engineers and Scientists from companies who have worked with Sigmedia over the years have delivered guest lectures in TCD's engineering modules. Ioannis Katsavounidis from Meta, Balu Adsumili from YouTube, Peyman Milanfar from Google, Ben Kent from the Foundry and Oliver James from DoubleNegative have all taken the time to motivate and inspire students in the study of computational science and engineering.