Ph.D./Early Stage Researcher (ESR13) position in Material Appearance Workflow

Applications are invited for a 3-year full time PhD / Early Stage Researcher (ESR13) position in Material Appearance Workflow in the EU- Funded Marie Sklodowska-Curie Initial Training Network (ITN) project entitled Appearance Printing European Advance Research School (ApPEARS), see www.appears-itn.eu.

The position will be mainly based at Stratasys LTD (see www.stratasys.com) with the Design Realism project. The recruited researcher will work in a high-level international research environment within Stratasys, at the premises of Stratasys in Rehovot, close to Tel-Aviv, and in close collaboration with other researchers from the ApPEARS network. During the 36-month contract, the PhD candidate will spend a maximum of 9 months in secondments or internships to some other partners in the ApPEARS project.

The candidate must enroll in a PhD program at the Norwegian Colour and Visual Computing Laboratory https://www.ntnu.edu/colourlab in the Norwegian University of Science and Technology (NTNU), and should also participate in a rich program of organized research training activities, preparing for a future career as a scientist, engineer, entrepreneur and innovator, who can assume scientific and technological leadership in the field of appearance printing, including acquisition, measuring, modeling, visualization, reproduction and evaluation of appearance.

The recruited candidate will work on a field of research within the ApPEARS project that is distinct, but also tightly related to other research efforts in the project. The position and a brief description of the research in these positions are detailed hereinbelow.

Please note that as research progresses, the exact definition of the position and the topic of research may, and is even likely, to evolve.

Position description:

The candidate is expected to work towards combining a quantitative description of the capabilities of state of the art 3d printers in terms of appearance with a quantitative analysis of current and emerging market requirements to identify the best matches between capabilities and requirements, and to pilot methodologies for achieving these best matches based on knowledge of computer graphics, vision, printing and imaging. It is likely that a quantitative model will need to be constructed of the appearance of a printed object for this purpose. The candidate will collaborate with the ApPEARS partners and other ESRs to demonstrate integrated solutions. The following are a few preliminarily foreseen collaboration points:

- Identification of requirements and potential solutions in the medical sector
- Identification of requirements for 2.5D printing, for example cultural heritage preservation, and their potential solutions
- Use of state of the art and of emerging file formats in an integrated workflow
- Modelling, visualization and prediction of the appearance of 3D prints
- Use of quantitative measurements to identify the most promising applications of any given technology

Supervisors:

The main supervisor will be

Yoav Bressler, a color expert at Stratasys LTD,

and the main academic supervisor will be

Phil Green of the Norwegian University of Science and Technology,

Co-supervisors will also be allocated within the ApPEARS project members.

Qualifications required for the announced position:

The candidate must have the following qualifications.

•	A master's degree in a relevant engineering or science subject such as (but not limited to) Computer Science, Computer Graphics, Image Science, Image Processing and Computer Vision or Printing.

•	Some prior knowledge or experience in marketing.

•	Some programming skills.

Applicants with no letter grades from previous studies must have an equally good academic foundation. Applicants who are unable to meet these criteria may be considered only if they can document that they are particularly suitable candidates for education leading to a PhD degree.

The following is desired:

•	Experience in psychophysical experiments.

•	Good knowledge of 3D printing technology and its applications.

•	Good knowledge of the field of color science and technology, color measurement, color device characterization.

Formal regulations:

Eligibility criteria:

Eligibility for admission will be determined by considering the combination of the candidate's academic qualifications and relevant professional experience according to the table below. Candidates who have completed their Master degree in an institution where English is not the language of instruction must present one of the following Secure English Language Test (SELT) results as follows:

• TOEFL Internet-Based (iBT) – minimum 95 with a writing score of at least 24

• Academic IELTS – minimum 6.5 with a minimum of 6.0 in each element

• Advanced Cambridge Certificate at grade C or better.

The test results must not be older than 24 months on the date of the application deadline.

Selection criteria:

• Quality of the candidate assessed through the candidate's academic merit and relevant professional experience.

• The candidate should also possess a sound working knowledge of quantitative & qualitative research methods, experimental design, statistical methods and mastery of relevant statistical software.

Personal attributes:

• Excellent oral and written communication skills and an ability to communicate effectively

• Flexibility and ability to take direction and accommodate feedback from diverse stakeholders.

• Ability to work both individually and in a (virtual) team environment with a high level of personal responsibility, initiative and leadership skills

• Ability to meet deadlines and produce work of a consistently high standard. • High motivation for research work and ability to work independently

• Eagerness to disseminate research results through publications and presentations at international conferences.

In the evaluation of which candidate is best qualified, emphasis will be placed on education, experience and personal suitability, in terms of the qualification requirements specified in the advertisement.

Please note there are strict eligibility requirements that apply to all Marie Skłodowska-Curie Researchers:

• The candidate must not have resided or carried out his/her main activity (work, studies, etc.) in Israel for more than 12 months in the 3 years immediately prior to his/her recruitment under the project (short stays such as holidays are not counted).

• At the time of recruitment, the candidate must not have been awarded a doctorate degree and must be in the first 4 years of her/his research career.

• The candidate must work exclusively for the project during the employment contract.

Researchers can be of any nationality, subject to Israeli immigration and employment regulations. They are required to undertake transnational mobility (i.e. move from one country to another) when taking up their appointment.

The project is committed to a policy of equal opportunity in employment practices, and would particularly like to encourage female candidates to apply. For further information on Marie Skłodowska-Curie schemes and eligibility please visit http://ec.europa.eu

Applicants must be qualified for admission as PhD students at NTNU. See http://www.ntnu.no/studieavd/dok/PhD_regulations.pdf for information about PhD studies at NTNU.

Salary conditions:

Salary will be negotiated with Stratasys LTD, but the minimum salary is determined by the terms of the project.

Note that a monthly mobility allowance of EUR 600, or a monthly family allowance of EUR 500 may apply. Eligibility for receiving family allowance depends on the family status when the contract starts.

We offer:

- Prestigious EU fellowship.

- Being a part of a team of leading scientists in different fields of academia and industry doing interdisciplinary research (physics, material/optical sciences, computer graphics, theoretical modelling)

- Opportunity to develop multidisciplinary research skills.

- Excellent training program covering research within the field of the topic covered in the PhD position.

- Establish a professional network through internships and visits to different institutes within industry and academia.

- Employee benefits

To apply:

Candidates must submit the following documents in electronic form:

Application components:

- Curriculum vitae. Include if there any relevant publications and the names and contact information of 2 references.

- Copies of academic certificates and transcripts.

- Motivation letter

- A brief research proposal addressing the topic of the research project (2-3 pages)
- English proficiency results if applicable.

Otherwise, if the position is not yet listed in the application system, or for additional information about the research project contact:

Yoav Bressler, yoav.bressler@stratasys.com.

Starting date: February 2020 (or earlier)

Application deadline: 15 December 2019