Must be typed

（For JSPS Fellow）

Form B-5

Date（日付）
26/01/2018 （Date/Month/Year:日/月/年）

Activity Report -Science Dialogue Program-
（サイエンス・ダイアログ事業 実施報告書）

- Fellow's name（講師氏名）: Yang Yang （ID No. PE17020 ）

- Participating school（学校名）: 和歌山県立向陽高等学校

- Date （実施日時）: 26/01/2018 （Date/Month/Year:日/月/年）

- Lecture title（講演題目）: （in English） **Introduction to stretchable electronics**

（in Japanese） 伸縮性エレクトロニクス概論

- Lecture summary（講演概要）: Please summary your lecture 200-500 words.

Stretchable electronics, also known as soft electronics or elastic circuits, is a technology for building electronic circuits by depositing stretchable electronic devices and circuits onto stretchable substrates or embed them completely in a stretchable material such as silicones or polyurethanes. In the simplest case, stretchable electronics can be made by using the same components used for rigid printed circuit boards. One of the things that need to change is the substrate and the interconnections, being made stretchable, rather than flexible or rigid. Typically, polymers are chosen as substrates or material to embed. When rigid components are deposited onto stretchable substrates, the interconnects will be subjected to high mechanical strain whenever the substrate is flexed. This is because, when bending the substrate, the outermost radius of the bend will stretch so that the relative spacing of each interconnect will effectively increase in line with the increasing length of the substrate. Stretchable electronics attempts biomimicry of human skin and flesh, in being stretchable, whilst retaining full functionality. The design space for products is opened up with stretchable electronics. 3D conformable circuits are now possible by the application of stretchable cyber-skins consisting of elastomeric carrier substrates populated with stretchable conductors and devices. Examples range from surgical and diagnostic implements that naturally integrate with the human body to provide advanced therapeutic capabilities, to cameras that use biologically inspired designs to achieve superior performance. Sensory skins for robotics, structural health monitors, wearable communication devices, and other systems that require lightweight, rugged construction in thin, conformal formats will also be possible.

- Language used（使用言語）: English

- Lecture format（講演形式）:

◆Lecture time（講演時間） 50 min（分）, Q&A time（質疑応答時間） 10 min（分）

◆Lecture style（ex.: used projector, conducted experiments）

（講演方法（例:プロジェクター使用による講演、実験・実習の有無など））

Must be typed

Presentation using powerpoint

◆Interpretation（ex.: assistance by accompanied person, provided Japanese explanation by yourself）（通訳（例：同行者によるサポート、講師本人による日本語説明））

Assitance by accompanied person

◆Name and title of accompanied person（同行者 職・氏名）

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◆Other note worthy information（その他特筆すべき事項）:

no

- Impressions and opinions from accompanied person（同行者の方から、本事業に対する意見・感想等がありましたら、お願いいたします。）:

特に何もないです