Office of technology transfer

LEHIGH UNIVERSITY

Continuous Spatulated Fibrillar Adhesion Array

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Inventors

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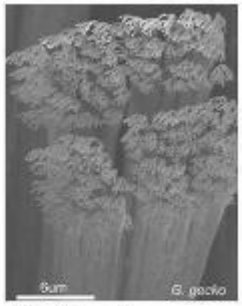
Overview

A new material has been created by modifying the local geometry of a contacting surface to mimic surfaces found in nature on the feet of geckos and insects. The result is a three-fold enhancement in adhesion against both smooth and slightly rough surfaces. Any industry that uses adhesive joints, including the automotive, aerospace, and semiconductor industries, can benefit from this technology, since it can in principle be used to enhance the adhesion of any material. In addition, this technology can be used to replace traditional tapes and fasteners where better properties are desirable, such as better re-usability and long term stability.

Tree Dtella

Gehyra variegate (Museum Victoria)



G. Gecko (Nancy Rizzo)

Advantages

- Adhesion is enhanced by a factor of at least 2-3 over a flat control of identical material
- Surface includes a terminal film, in which surfaces lacking this film has poorer adhesion in comparison to flat controls

Applications

- Adhesive joints
- Reusable adhesives

Status of Intellectual Property

A U.S. utility patent application has been filed.

Lehigh ExpertNet

- **Nicholas Glassmaker –**
- **Manoj Chaudhury –**
- **Anand Jagota –** http://expert1.cc.lehigh.edu/LehighExperts/ExpertDetail.aspx?ExpertID=70443299

Licensing Opportunities

- Exclusive
- Non-exclusive
- Research Sponsorship
- Product Development Partnerships (PDP)

Lehigh Case # 092005-01