

Neil Sury

*Enhancing Gecko Adhesive Technology Using Micro Filter Nano Moulding and Carbon Nanotubes*

Since the majority of gecko adhesive technologies is unavailable for purchase by the general public, through my science project I sought to create/improve a reliable adhesive inspired by the gecko, by using simple affordable materials that could be replicated in a very large scale. This would be accessible to the public as well as use a process to build the gecko tape that is straight forward and one that I created at home. Could existing adhesive technology be replaced by a cheaper and more reliable gecko tape? I found that my results support the fact that “Gecko tape” could be enhanced by the effects of carbon fiber nano-tubes. The weight limits set by the control gecko tape were either met or exceeded BY two of the three versions of the enhanced gecko tape containing carbon Nano tubes that were tested. This overall supports that pre-existing gecko adhesives can be enhanced by Carbon Nano tubes. Gecko tape itself (from my results) has proven itself to be not just a viable way for adhesion but also a beneficial one as well. My goal of using the gecko tape to rethink our modern adhesive tapes and I felt that I found a good alternative. I also found a new improvement to the design by adding Carbon Nanotubes. I found that the nanotubes helped the gecko tape perform better than the pre-existing design. Nanotubes with the nanomoulding (from a microfilter) did worse than the gecko tape control. Adding nanotubes to the gecko tape design increased its adhesion ability.