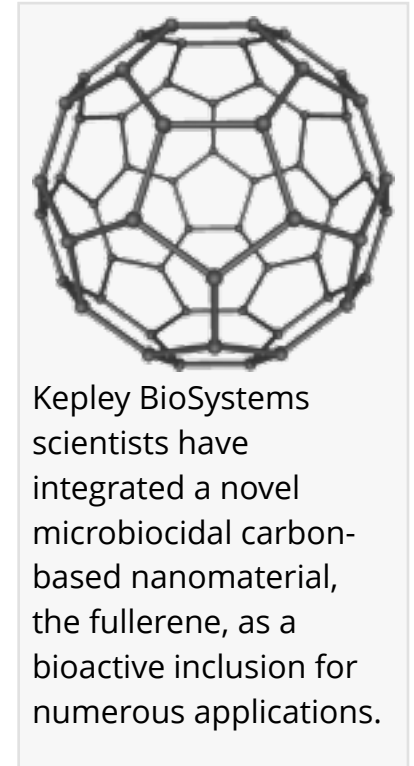


NC Biotech Files Second Accelerated Patent to Combat Coronavirus Epidemic Using Microbiocidal Nanomaterials

GREENSBORO, NC, USA, July 14, 2020 /EINPresswire.com/ -- [Kepley BioSystems](https://www.einpresswire.com/) filed the second of two recent patents describing novel approaches to protective applications addressing the Coronavirus pandemic, as well as increasing antimicrobial resistance threats.

Kepley researchers have invented a method to permanently infuse a substrate with antimicrobial functional fullerenes (modified buckyballs). Applications include synthetic or natural Personal Equipment (PPE), non-disposable medical garments and upholstery. When treated, reusable materials would remain microbiocidal after repeated laundering with respect to an ever-evolving array of viruses, fungi, and bacteria, such as SARS-CoV-2, the zoonotic novel coronavirus that causes COVID-19.

In fact, standard, disposable PPE embodies hydrophobic barriers that repel circulating pathogens like viral particles and bacteria, which can remain viable in circulation throughout the environment. This phenomenon is reflected in the overall incidence of hospital-acquired infections that has continued to increase since the introduction of hydrophobic PPE. In contrast, this invention would provide a hydrophilic surface of microbiocidal fullerenes that would bind and inactivate such pathogens.



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Innovation is vital today, as microorganisms are increasingly out-smarting medicine and science.”

Terry Brady, Lead Inventor

Therapeutic applications of this invention may also be proven beyond bioactive PPE, as topical and aqueous antimicrobial nano-solutions for clinical use in the sinuses, gastrointestinal, bladder, peritoneum, pulmonary or other tissues with discrete vascular barriers. Whereas, the invention could be used in extracorporeal hemofiltration to eliminate bloodborne pathogens without direct arterial,

venous, or capillary administration.

The lead inventor, Terry Brady, remarked, “Innovation is vital today, as microorganisms are

increasingly out-smarting medicine and science. Safely destroying pathogens is easier at the atomic level without environmental or systemic release of untraceable particles.”

Anthony Dellinger, president of Kepley BioSystems, noted additionally, “Our group has a unique blend of medical and fullerene development depth, and this invention crosses the regulatory Rubicon by maximizing the therapeutic potential of fullerenes without systemic, clearance, half-life or residual toxicity risks.”

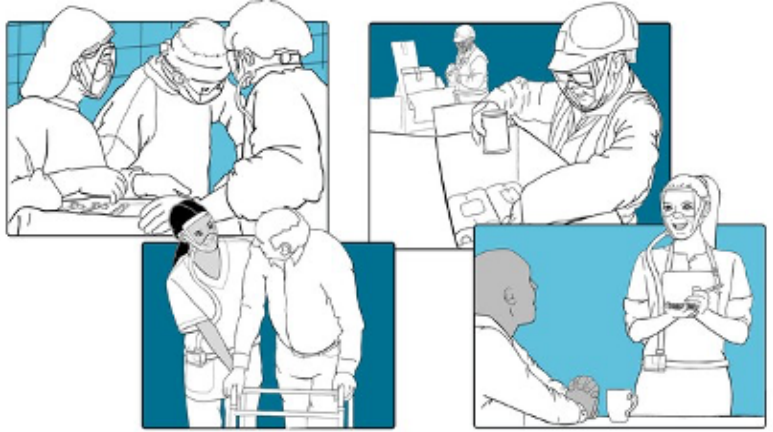
This patent is entitled, “Synthetic, multifaceted halogenated, functionalized fullerenes engineered for microbiocidal effects employing controlled contact for safe therapeutic and environmental utility.” (USPTO Assigned Serial Number: 16/946,892).

The first patent filed for accelerated review on June 10, 2020, described a self-contained, mobile breathing device to provide sterile air to the wearer or a treated space using rechargeable filtration media (USPTO Assigned Serial Number: 16/897,655). (See <https://www.prnewswire.com/news-releases/nc-biotech-files-accelerated-patent-for-novel-personal-protection-air-sterilization-device-301081698.html>)

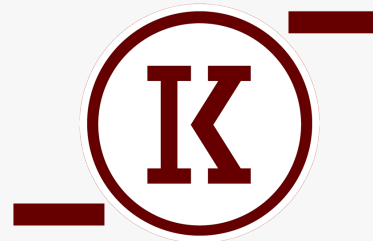
Kepley is seeking to form a consortium of public health officials and commercial partners to develop the innovation for widespread practical application.

About Kepley BioSystems:

Kepley BioSystems is a North Carolina-based life sciences biotech operating out of Gateway Research Park (GRP) in collaboration with the Joint School of Nanoscience and Nanoengineering (JSNN), comprised of a partnership between the North Carolina Agriculture and Technical State University (NCA&T) and the University of North Carolina at Greensboro (UNCG). Kepley BioSystems was founded in 2013 with a mission to emerge disruptive innovations to achieve global solutions. Having been primarily grant-funded to date, Kepley is seeking commercial partners and/or equity investors to help realize its full potential in multi-billion dollar markets



Another recent Kepley patent described a self-contained sterile breathing apparatus that could be combined with functionalized fullerene-treated garments to help protect front-line workers and patients in clinical settings.



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across the company's project portfolio. For more information, visit:

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