കൊച്ചി ശാസ്ത്ര സാങ്കേതിക സർവ്വകലാശാല
COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY

REGISTRAR

Cochin University P. O.
Kochi-682 022, Kerala, India

20.09.2021

Signed Justification for sponsoring the nomination (not to exceed 400 words) by the nominator.

Dr. Sailaja joined the Department of Polymer Science, CUSAT, in 2015 as Associate Professor and established a 'Biomaterials Laboratory' for the first time in the University in 2016. Her strong desire and continued proactive initiatives led to succeed in aligning the necessary amenities pillared by national funding resources such as DST-SERB, DBT and KSCSTE to transcend the Biomaterials laboratory. Dr. Sailaja has been promoted as Full Professor in 2018 and her group has presently 10 Ph.D. students and 3 postdoctoral fellows including the prestigious SERB NPDF. Though the facilities are limited, her team has made remarkable accomplishments in a short period (typical example: *5 Indian patents (Filed) and 10 publications in 2021*: ACS, RSC, IOP, etc.). The patents her team produced has often found space in media (*includes customizable herbal BTI: scaffolds with tunable, X-ray visible biodegradable sutures and anionic nanoclays with magnetic hyperthermia potential for targeted cancer therapy*). She believes in dreaming big with limited resources making remarkable achievements at Department of Polymer Science and RT. Her academic track record is brilliant with a strong track record in polymer technology, cancer biology and nanochemistry. Her diverse experience across the globe as part of her postdoctoral training has helped her immensely in fostering a multi-disciplinary approach in meticulous research. Dr. Sailaja was instrumental in achieving the prestigious Chancellor's award CUSAT has received recently. Her commendable professionalism has certainly helped in the incredible success of her team.

Dr. Sailaja's research experience in Bone Tissue Engineering (BTE) begins with her Ph.D. at SCTIMST, India wherein the surface-phosphorylated copolymer, she has developed invoked significant new bone formation *in vivo*. Further, her research insights in BTE expanded its horizon to *customized regenerative* ***multifunctional TE scaffolds*** that *also fasten/sequential osteogenesis* for treating bone diseases such as ***osteosarcoma***, ***osteomyelitis*** etc. in addition to ***normal bone-grafting***, *and can be classified into five platforms.*

1. *A generic surface phosphorylation protocol that enable biomimetic/biomineralization of diverse biomaterials and promote new bone formation in vivo*
2. *Designing combinatorial systems for customized regenerative BTE for Osteosarcoma*
3. *Development of customizable and herbal BTE scaffolds with tunable degradation*
4. *Theranostic nanomaterials for the localized treatment of Osteosarcoma*
5. *Injectable materials for BTE (Osteomyelitis)*

I take pride in nominating her for the ***Sun Pharma Research Awards 2021*** *for I believe she deserves to be recognized and appreciated for her contributions towards scientific advancements in biomaterials research, especially Regenerative Bone Tissue Engineering.*

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