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Nasir Ali* (nasir.ali@iiu.edu.pk), Department of Mathematics & Statistics, International Islamic University, Sector H-10, Islamabad, 44000, Pakistan, and **Zeeshan Asghar, Muhammad Sajid** and **Fazal Abbas**. *A numerical study of bacterial gliding over a non-Newtonian slime.*

This work presents a fluid mechanical model and associated numerical analysis for slime-based gliding motility in a bacterium cell which do not has organelles of motility. The gliding motility is assumed to arise from a traveling waves generated on the surface of the cell, which pushes on the viscous slime and give rise to propulsion. The model explores the effects of the viscoelasticity of the slime on cell speed and power consumed by the cell. The flow patterns of slime during gliding are also shown. (Received September 25, 2017)