

**IECP
2020**

The 1st International Electronic Conference on Pharmaceutics

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Chaired by **DR. ANDREA ERXLEBEN** and **PROF. DR. ELISABETTA GAVINI**



pharmaceutics



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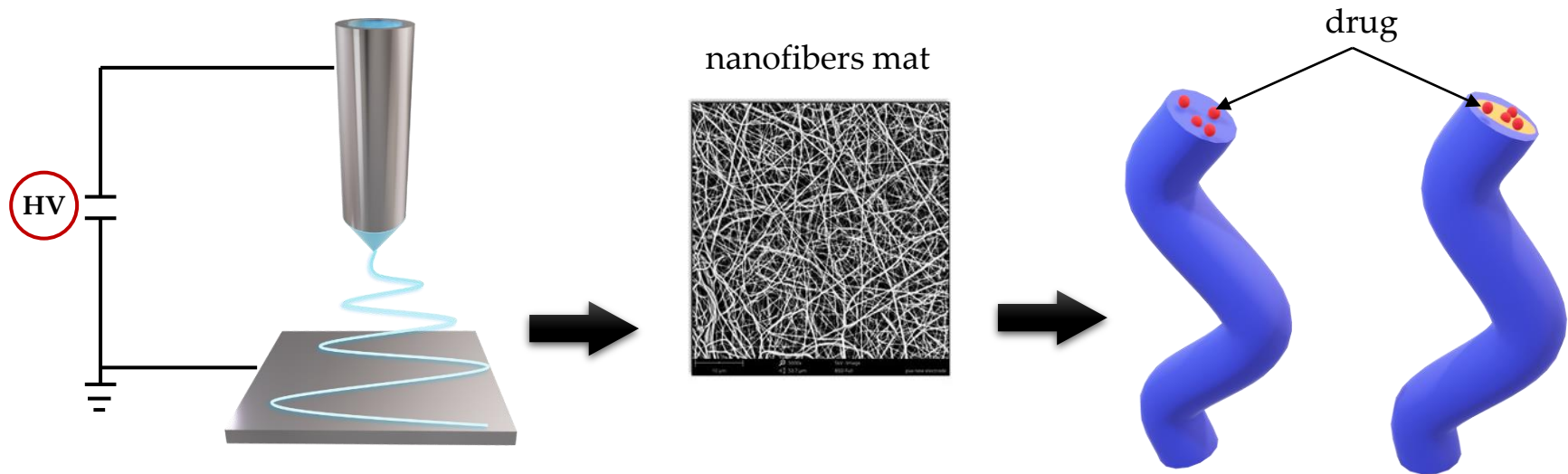
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transMed

Graphical abstract



NEEDLE electrospinning = **LOW** productivity
NEEDLELESS **HIGH**

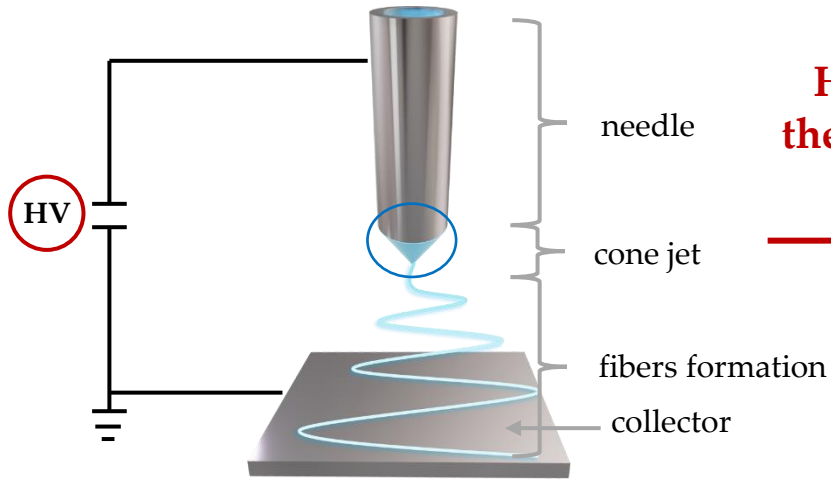
Electric Field as a key in electrospinning development?

DRUG DELIVERY APPLICATION

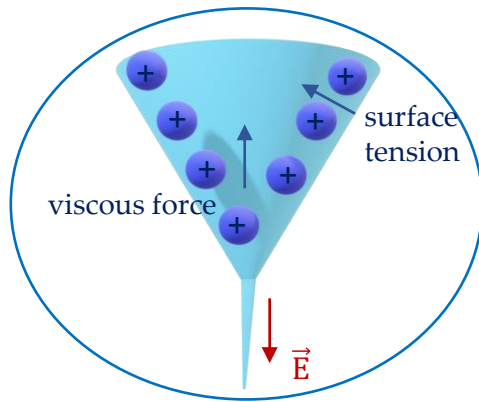
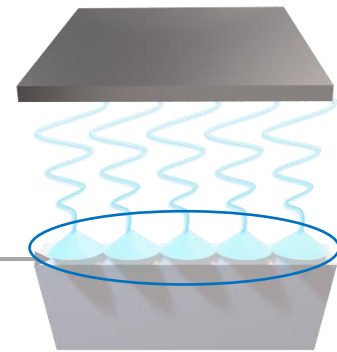
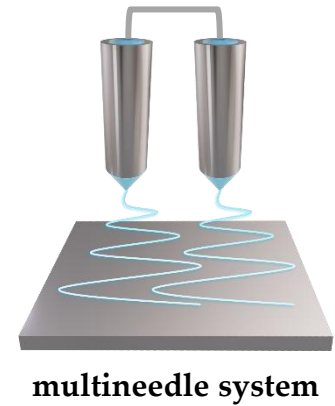
Keywords: needleless electrospinning; electric field; drug delivery; COMSOL Multiphysics; high-throughput

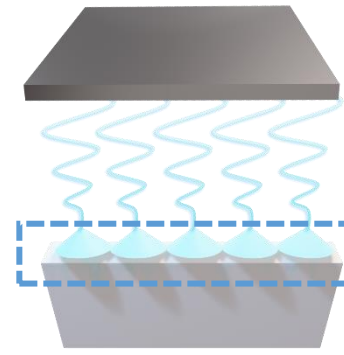
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Introduction

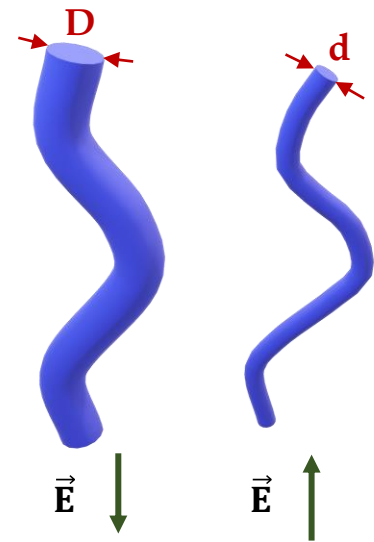


How to increase the electrospinning productivity?





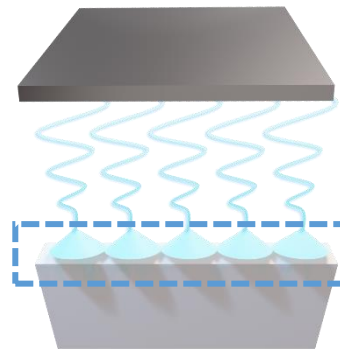
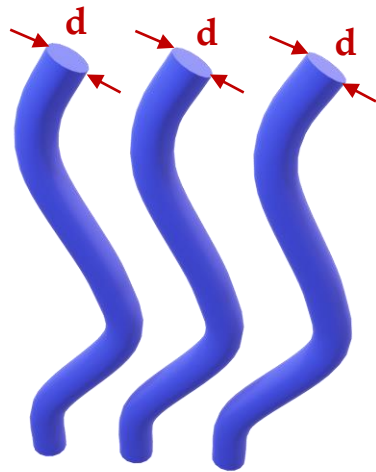
Electric Field strength



How to determine the most efficient systems for drug delivery applications?

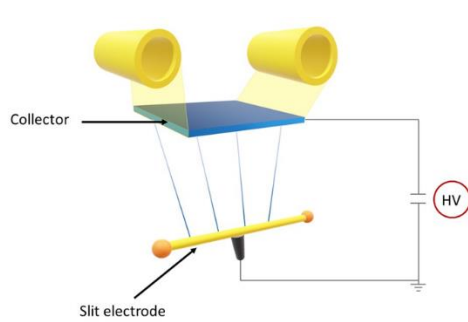


Electric Field uniformity

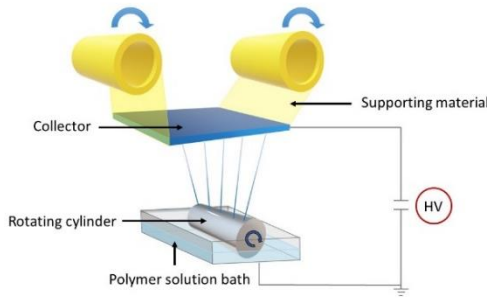


uniform \vec{E} = uniform fibers distribution

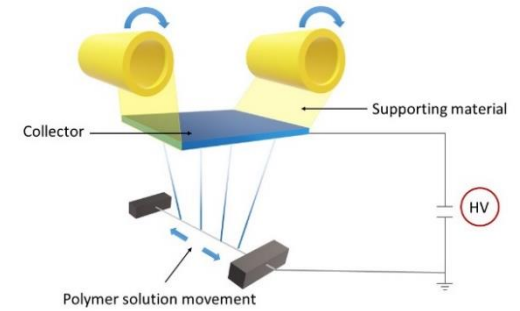
Results and discussion



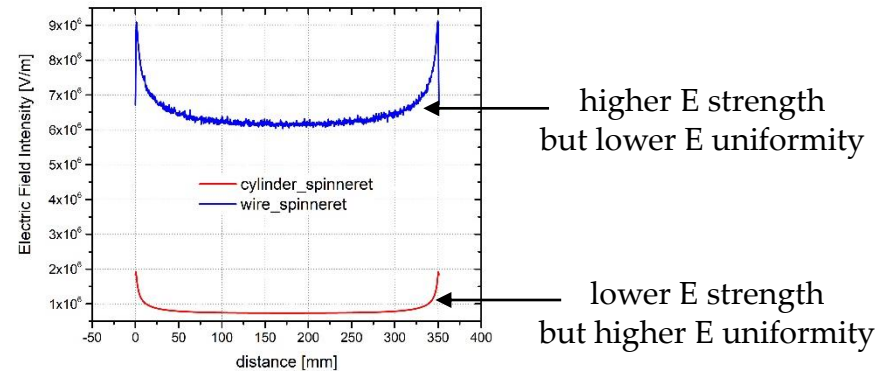
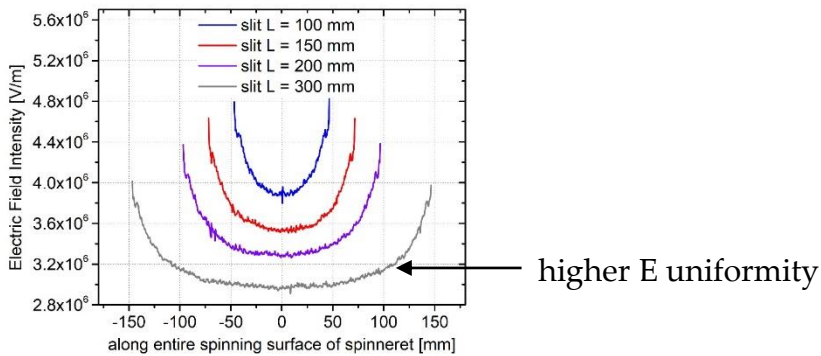
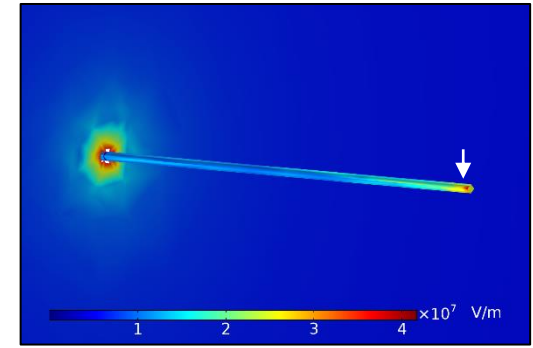
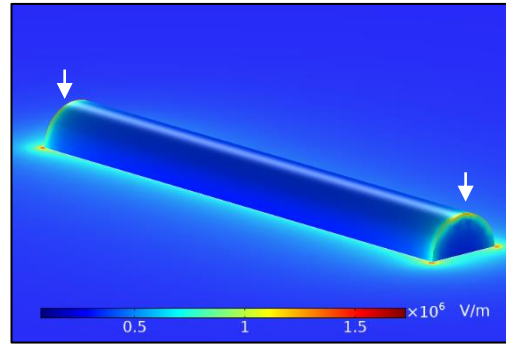
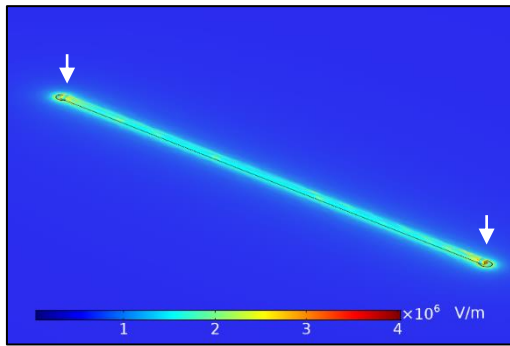
Slit electrode



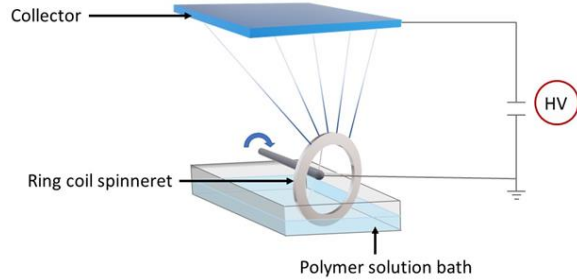
Cylinder electrode



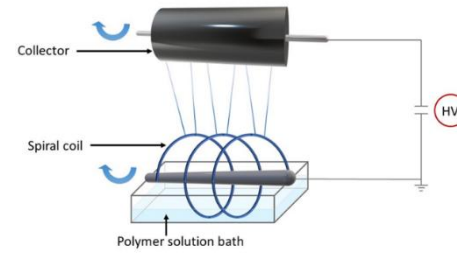
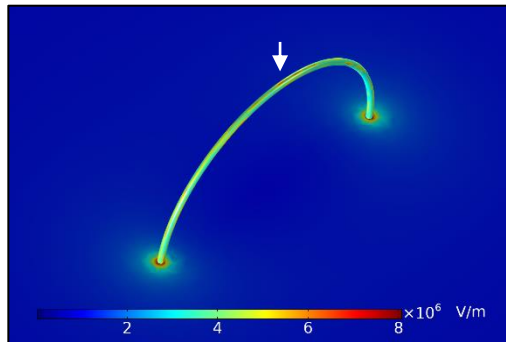
Wire electrode



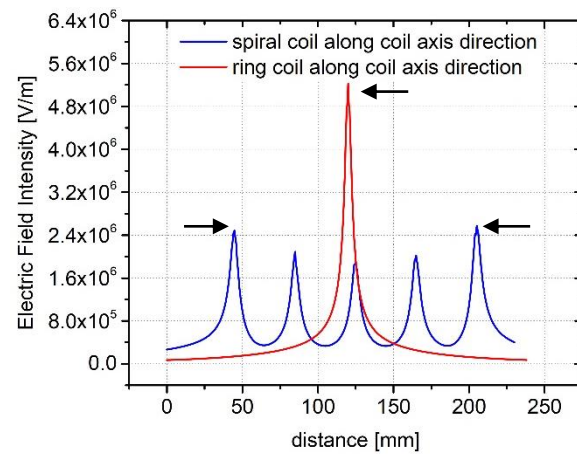
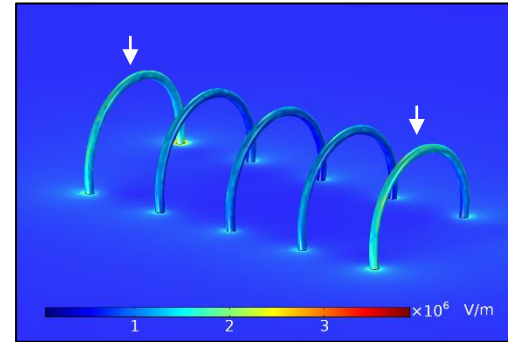
Results and discussion



Ring coil electrode



Spiral coil electrode



Conclusions

How to develop the electrospinning system for drug delivery applications?



Electric field strength



Electric field uniformity

Further development ?

Acknowledgments



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