# Article information:

Electrohydrodynamic printing of silver nanowires for flexible and stretchable electronics - Nanoscale (RSC Publishing)
<https://pubs.rsc.org/en/content/articlelanding/2018/NR/C7NR09570H>

# Article summary:

1. Electrohydrodynamic (EHD) printing has been developed as a promising technique to print silver nanowires (AgNWs) for flexible and stretchable electronics.

2. AgNW ink was synthesized and customized for EHD printing, with important parameters including viscosity and AgNW concentration.

3. The printed AgNW patterns showed high electrical conductivity and flexibility, with potential applications in flexible heaters and stretchable dry electrodes for electrophysiology.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article "Electrohydrodynamic printing of silver nanowires for flexible and stretchable electronics" presents a promising technique for printing highly conductive silver nanowires (AgNWs) for flexible and stretchable electronics using electrohydrodynamic (EHD) printing. The authors provide a detailed description of the EHD printing system, including the pneumatic dispensing system, voltage supply system, and precision three-axis translation stage. They also discuss the importance of ink parameters such as viscosity and AgNW concentration in achieving high-resolution printing.

The article provides evidence to support the claims made, including characterization of the flexibility and stretchability of printed patterns under cyclic bending and stretching tests. Devices based on printed AgNWs are also demonstrated, including flexible heaters and stretchable dry electrodes for electrophysiology. The authors provide examples of complicated patterns printed by EHD printing, indicating its potential for large-scale, high-resolution printing of AgNW devices.

However, there are some potential biases in the article that should be noted. For example, while the authors acknowledge that inkjet printing is widely used for printing electronic devices, they suggest that it is not suitable for printing long metal NWs due to nozzle clogging and difficulty maintaining structural integrity. This may be true to some extent but could be seen as biased against inkjet printing as a viable alternative to EHD printing.

Additionally, while the authors discuss the importance of longer NWs in achieving higher electrical conductivity and larger stretchability, they do not address potential drawbacks such as increased cost or decreased optical transmittance. This could be seen as a one-sided reporting of benefits without considering potential trade-offs.

Overall, the article provides valuable insights into EHD printing as a promising technique for high-resolution printing of AgNWs for flexible and stretchable electronics. However, readers should be aware of potential biases or missing points of consideration when interpreting the results presented.

# Topics for further research:

* Inkjet printing for electronic devices
* Nozzle clogging in inkjet printing
* Structural integrity in inkjet printing
* Drawbacks of longer metal nanowires
* Cost of longer metal nanowires
* Optical transmittance of longer metal nanowires

# Report location:

<https://www.fullpicture.app/item/21fdf57248342f4a81153fc68d65c561>