

Defining plasma

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The general public remains quite unfamiliar with the term “plasma”. Most people think of blood plasma, not ionized gas when plasma is mentioned. So, every time the word plasma (ionized gas) is mentioned it has to be followed by a brief description, so people would know which plasma the author/speaker is referring to. Another challenge is that the public does not have a real appreciation of the role of plasma in nature and in technology. Many plasma scientists try to help the situation but most explanations that I came across sound rather “preachy” and do not connect with the emotion and imagination of the public, like some other concepts do, such as black holes for example. Here, I am going to try another way: a poem. With a poem (a little dramatic and with some artistic license) I am trying to connect with the public on an emotional level by getting them to appreciate the crucial role played by plasma and how existential this state of matter really is. Here it is:

No Plasma, No Life

*Did you know that
plasma is what the universe is made of?
No plasma, no fusion!
No fusion, no stars!
No stars, no light!
No light, no life!
With plasma, here we are,
exploring lands and seas near and far,*

*and making our own plasma.
No man-made plasma, no integrated circuits!
No integrated circuits, no modern computers!
No modern computers, no internet!
No internet, no smart phones!
Slow and disconnected our lives would be,
no better than in the 19th century.
So, remember: Plasma is an ionized gas.
You can find it around you, in the stars, and everywhere,
a special state of matter about which you should care.*

I hope the reader finds this brief poem both educational and entertaining. If you are engaged in outreach activities (high schools, public talks, media, etc.), I am perfectly fine with you showing this poem (with proper credit, of course) and using it to capture the attention of your audience. They may believe you more when you start telling them how plasma is going to electrify the chemical industry, clean the environment, help cure some diseases, generate limitless clean energy.

Text and poem by M. Laroussi.

*The Plasma Connection is a publication of the IEEE
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THE PLASMA CONNECTION



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Dr. Mounir Laroussi is a Professor at the Electrical & Computer Engineering Department of Old Dominion University (ODU) and is the Director of ODU's Plasma Engineering & Medicine Institute (PEMI). Dr. Laroussi's research interests are in the physics and applications of non-equilibrium gaseous discharges including the biomedical applications of low temperature plasma (LTP). He designed and developed numerous novel LTP devices such as the resistive barrier discharge (RBD) and the plasma pencil. Dr. Laroussi conducted the first pioneering experiments on the use of low temperature atmospheric pressure plasmas for biomedical applications and contributed to the establishment of the interdisciplinary field of "Plasma Medicine". For his scientific achievements in the field of low temperature plasmas and their biomedical applications he was elevated to the grade of Fellow by IEEE in 2009 and was awarded the 2012 IEEE-NPSS Merit Award.