Seeks partner for commercializing a ---

COLD PLASMA PENCIL

Old Dominion University seeks partner(s) to license/commercialize a unique Cold Plasma Pencil, (Plasma Jet) device, with a plume of up to 2 inches (5 cm) in length. This room temperature Plasma Jet device, is a small handheld device about the length & diameter of a large pen. The total apparatus including power generator is portable and suitable for on-site uses.

Potential applications include:

- In-situ sterilization of skin or wounds
- Dental sterilization
- Precise cleaning of small surfaces
- Modification of surface properties (hydrophobicity etc.) or chemical decontamination of materials, where harsh treatment from wet chemicals or high temperatures are not suitable.

Technology:

- The device is about 5 inches in length & about ¾ inch in diameter and very light in weight.
- Plume length is adjustable from ½ to 2 inches, depending upon gas flow, diameter can vary from 1mm to a few mm.
- Power source can be AC, RF, or pulsed.

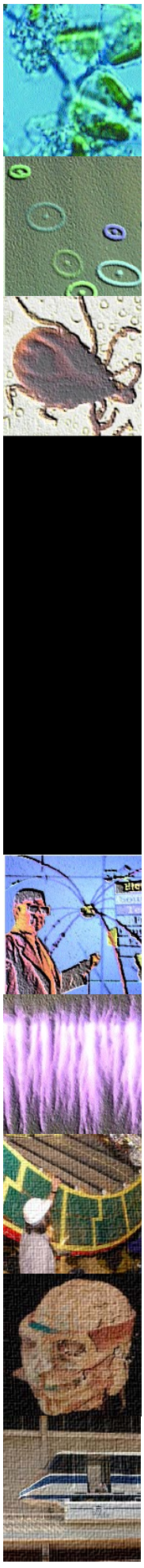
Advantages:

1. Long Plume at RoomTemperature & at Atmospheric Pressure.
2. Portable system, with a lightweight handheld, pencil-like device allowing for intricate work in confined work areas.
3. No need for “high pressure” enclosures.
4. Presence of oxygen, nitrogen, and moisture in air, creates reactive chemical species
5. Contains no sharp metal objects, so there is no risk of arcing,
6. Capable of single or multiple plumes to create a “shower” like effect.
7. Can be arranged in series for treating larger areas.
8. Power generator capable of servicing multiple “Plasma Pencils”.
9. Remains stable & at room temperature for several hours of continuous operation, as long as the power is applied and the carrier gas is flowing
10. The “Plasma Pencil” is inexpensive to make, uses commercially available materials & a power generator.

Contact:

Zohir Handy, Office of Technology Licensing
Old Dominion University, Norfolk VA 23529, USA
Tel: (757) 683-5052 email: zhandy@odu.edu

ODU Ref# 05002
Patent Pending



Old Dominion University Contact Z. Handy, Office of Technology Licensing, Tel 757-683-5052, Fax 757-683-5902 email zhandy@odu.edu

Inventor of the

COLD PLASMA PENCIL

patent pending

Mounir Laroussi

Dr. Laroussi is an Associate Professor in Electrical & Computer Engineering at Old Dominion University, with a Ph.D. in Electrical Engineering from the University of Tennessee. His research interests are in physics, applications of non-equilibrium gaseous discharges & in the generation & biomedical applications of “cold” plasmas, including their use for sterilization purposes.

He has authored or co-authored more than 50 papers and holds four patents. A Senior Member of IEEE, he is the recipient of the 1996 Advanced Technology Award from the Inventors Clubs of America, and the IEEE Millenium medal award, 2000. He has served as a Guest Editor of the IEEE Transactions on Plasma Science and is presently a member of the Administrative Committee of the IEEE Nuclear and Plasma Science Society and a member of the Executive Committee of the Plasma Science and Application Standing Technical Committee.