



COMPACT SHOCK WAVE GENERATING DEVICE FOR DRUG DELIVERY

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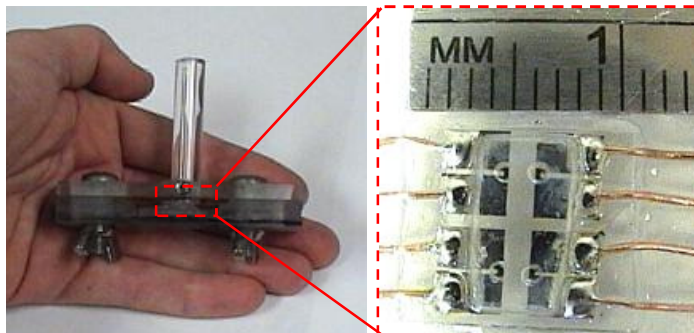
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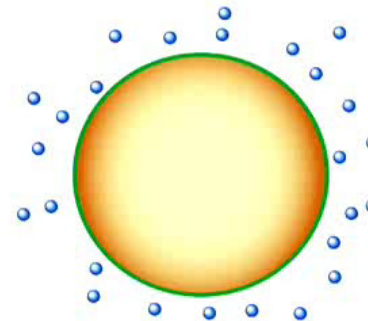
The Technology

- Micro-pyrotechnic device generates shock waves
 - Device contains a nanothermite reaction to produce shock waves
- The shock waves permeabilize cells
- Nanoparticles, proteins, DNA, etc. are delivered inside cells
- Specially designed nanoparticles can carry imaging markers or antibodies and target specific cell types
- The nanoparticles carry material to allow
 - Cell destruction
 - Genetic modification
 - Cell imaging

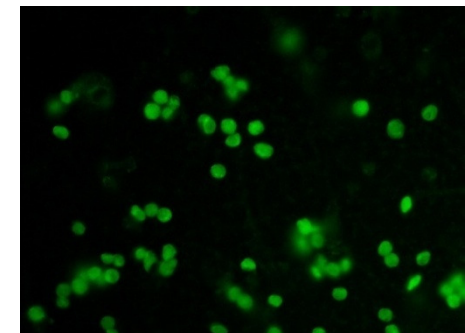
Micro-Shock generator



Shock Wave Delivery Process

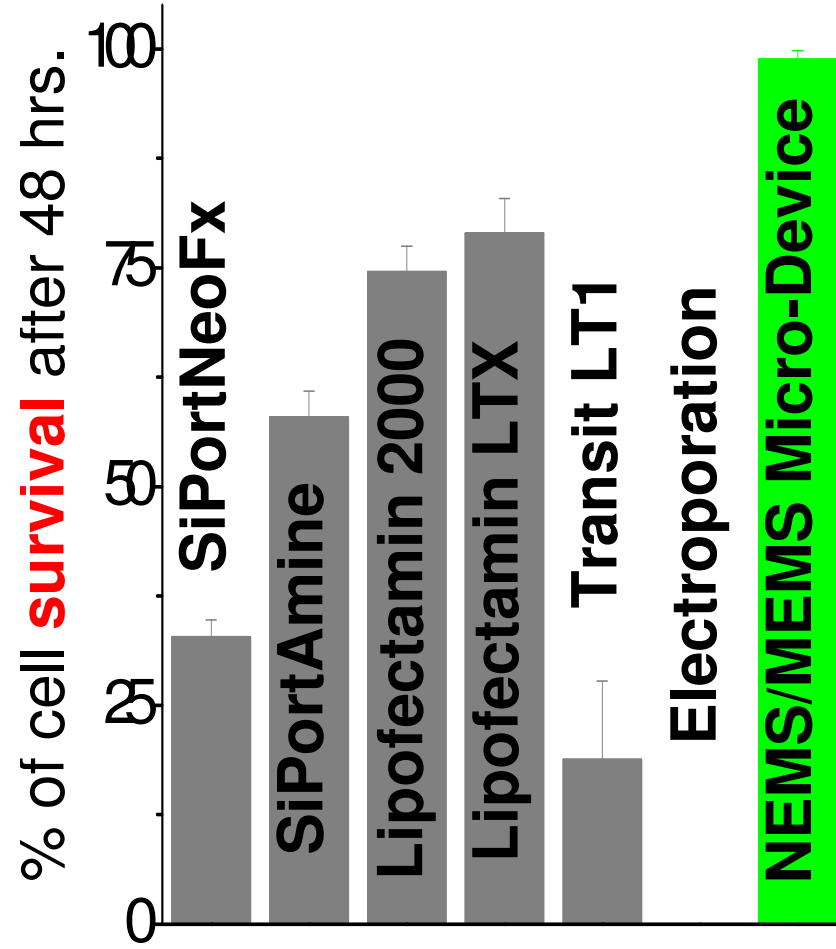
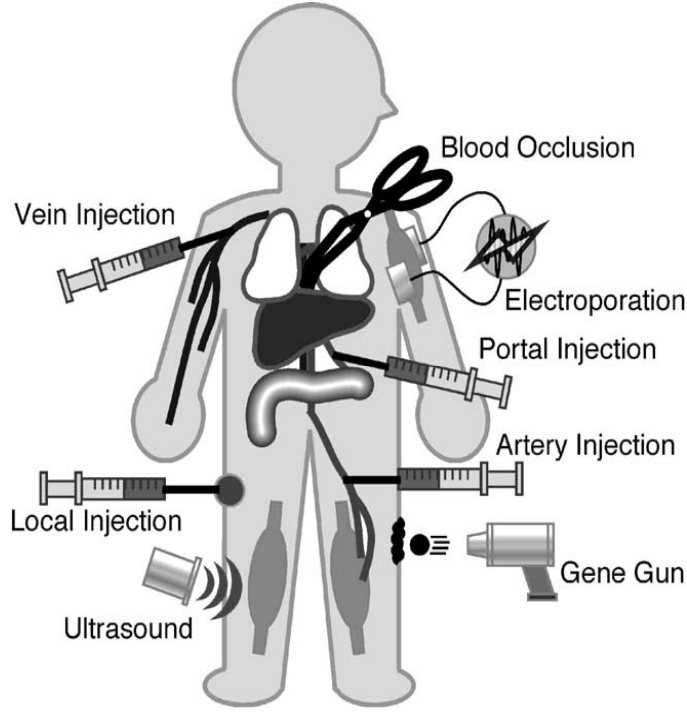


Cells transfected with fluorescent protein





Competing Technology





Unique Selling Points and Product Positioning



- Unique synthesis capabilities:
 - Nanoscale synthesis and assembly
 - Integration with microfabrication techniques
- The system can be tuned for wide range of applications
- The system can be applied to individual cell suspensions and/or bulk tissue samples
- User-friendly, hand-held and inexpensive
- Nanoenergetics and organosilicate nanoparticles are patented technology



Market Opportunity



- Medical equipment manufactures
- Medical hospitals
- Animal laboratories
- Plant & crop biotech. research community
- Gene transfer and transfection market:
 - Current Market estimated ~\$10billion
 - Transfection tools represent ~25% of the market
 - All reports project growing market (20-30% per year)
 - Expanding demand



Competitive landscape, Barrier to Entry



- IP Protection on core technology
 - University of Missouri holds IP
 - NEMS/MEMS have exclusive license on several patents
- Patents pending :
 - Preferred nanoenergetic formulation (approved)
 - Micro-device for shock-wave particle delivery (pending)
 - Synthesis of unique Organosilicate Nanoparticles with large surface area and applications thereof (approved)

NEMS/MEMS has the freedom to operate



Commercialization Strategy



- Continue to leverage government sponsored research to advance development
- Identify strategic alliances and licensing of technology
- Form new ventures to attract private equity investment to complete commercialization



DEAL SOUGHT(Investor value proposition)

- Funds for prototype advancement
 - Improve fabrication techniques, performance and reliability
 - Amount needed: ~\$2 million/ 2 years
- After 2 years, prototype will be ready for mass production
 - Production will be subcontracted initially
 - In-house production line will be developed
- Return on Investment (ROI)
 - Appropriate level of equity

FLEXIBLE DEAL-partnership, licensing, equity share, availability of expertise



Science Team



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Mr. Clay S. Staley, Researcher

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Wayne McDaniel, Technology Management & Industry Relations

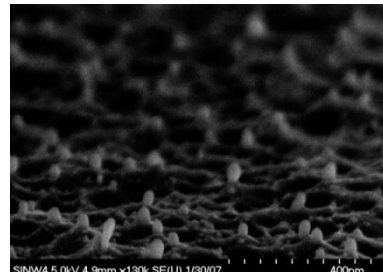
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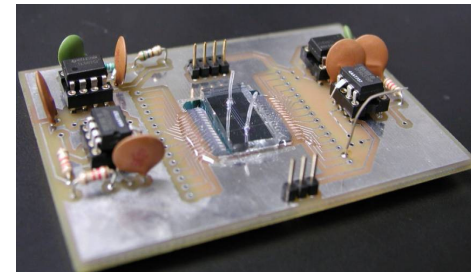
Energy



Nanoelectronics



Nano-biosensors Lab-on-chip





Thank You



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