Biodegradable Mg-Ca Alloy Implant

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**Status:**
Seeking R&D and/or licensing partner  
Patent Pending

**Inventor Bio:**
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Professor  
Mechanical Engineering Department  
University of Alabama  
Over 20 academic publications  
3 Patent Applications

**Synergy of a novel biodegradable material and a material processing method**
- Processed by Hybrid Dry Cutting-Hydrostatic Burnishing method  
- Biodegradable Mg-Ca alloy obtains combination of mechanical strength, plasticity, ductility, and corrosion resistance  
- Degradation rate can be controlled

![Graph showing corrosion over time after implantation](chart)

**Advantages**
- Closer stiffness to that of bone  
- Can reduce or eliminate stress shielding  
- Eliminates revision surgeries

**What’s Unique?**
- New implant material  
  - Magnesium-Calcium 0.8 (wt. %)  
- New manufacturing process  
  - Hybrid dry cutting-hydrostatic burnishing

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