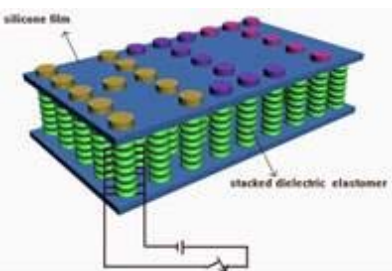



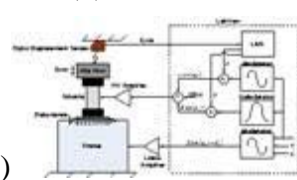
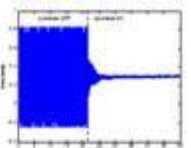
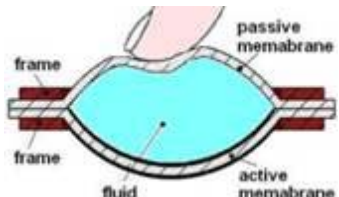
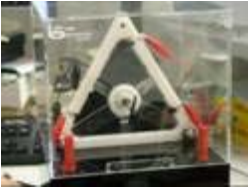







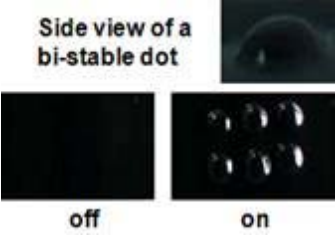


Electroactive Polymer Actuators and Devices (EAPAD) XII

EAP-in-Action Session, March 8, 2010

Moderator: *Conference Chair: Yoseph Bar-Cohen*, Jet Propulsion Lab.

Country	Presenters	Topic of demo
China	<u>Harbin Institute of Technology:</u> Jinsong Leng, Zhen Zhang, Liwu Liu, Xin Lan	<p>1. Tactile display using stacked dielectric elastomer - 8×8 matrix tactile display cells actuated by stacked dielectric elastomer with mechanical load-transmitting and voltage control systems</p> <p>2. Braille printer using refreshable shape-memory polymer (SMP) paper - Using thermosetting SMP paper Braille text is printed in refreshable form.</p>   <p>(1) (2)</p>
Denmark	<u>Danfoss PolyPower A/S:</u> Hans-Erik Kiil & Mike Tryson	<p>Demos actuated by PolyPower dielectric EAP films – (1) High Strain PolyPower Films (>100%); (2) fluid control system using EAP actuators; (3) vibration isolation; and (4) force sensor array.</p>     <p>(1)&(4) (2) (3)</p>
Italy	<u>University of Pisa, Research Centre “E. Piaggio”:</u> Federico Carpi,	<p>Hydrostatically coupled dielectric elastomer actuators - A fluid is used to hydrostatically transfer forces to a load without direct contact with active elements offering improved safety and higher versatility.</p> 
New Zealand	<u>The Auckland Bioengineering Institute's Biomimetics</u>	<p>Dielectric elastomer actuator (DEA) - demonstrations of actuation, sensing and control - 1) Capacitive, high specific torque rotary motor; 2) Biomimetic multi-segment DEA spherical rotor; 3) 4-channel EAP controller; and 4) Other self-sensing and DEA-based demonstrations focusing on</p>

	<p>Lab: Iain Anderson Emilio Calius, Todd Gisby, Thomas McKay and Ben O'Brien</p>	<p>bio-inspired DEA</p> <div style="display: flex; justify-content: space-around;">    </div>
USA	<p>Artificial Muscle, Inc. (AMI): Marcus Rosenthal, James Biggs, and Al Zarrabi</p>	<p>Reflex™ haptic feedback technology – Platforms for consumer electronics including touch screen devices and gaming controllers driven by dielectric elastomer EPAM™</p> <div style="display: flex; justify-content: space-around;">    </div>
	<p>National Braille Press: Deane Blazie and Noel Runyan</p>	<p>Commercial Active Braille displays</p> <div style="text-align: right;">  </div>
	<p>Ras Labs, LLC: Lenore Rasmussen</p>	<p>Contractile EAPs (1) Contractile EAPs with low electric input; (2) EAPs capable of contraction-expansion cycles.</p> <div style="text-align: right;">  </div>
	<p>UCLA: Qibing Pei, Zhibin Yu, Paul Brochu, Xiaofan Niu, Wei Yuan, and Huafeng Li,</p>	<p>Bi-stable electroactive polymers (BSEP)</p> <div style="text-align: right;">  </div>

This Session that is held annually as part of the SPIE's EAPAD conference is intended to turn the spotlight on Electroactive Polymers (EAP) materials and their applications as well as increase the recognition of their potential for smart structures. New materials and applications are continuing to emerge and this session is intended to provide the attendees an opportunity to see a demonstration of EAP materials in action. This

Session offers a forum of interaction between the technology developers and potential users as well as a "hands-on" experience with this emerging technology. It provides a great opportunity to see the capability of state-of-the-art of EAP as potential actuators-of-choice. The first Human/EAP-Robot Armwrestling Contest was held during this session of the 2005 EAPAD conference.

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