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A. Patent Application No.(s)	B. Patent No.(s)
11/222,022	
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This instrument confers to the United States Government, as represented by the Department of Defense, U.S. Navy, a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced on its behalf throughout the world the following subject invention. This license will extend to all divisions or continuations of the patent application and all patents or reissues which may be granted thereon:

Invention Title:

Design of Hydraulic Pump Based on Membrane Actuator Made of

FSMA Composite

Inventor(s) Name:

Minoru Taya, Hsiuhung Chen, Victor Chen, Chiyuan Wang,

Yuanchang Liang, Harry Sugandi, Dong-Teak Chung

UW Ref#:

7033D

U.S. Application Number:

11/222,022

Patent Title:

Actuators Based On Ferromagnetic Shape Memory Alloy

Composites

Filing Date:

9/8/2005

Country, if other than United States:

This subject invention was conceived or first actually reduced to practice in performance of the government-funded projects, U.S. Navy Contract Number(s) N00014-02-1-0689, and N00014-00-1-0520.

Principal rights to this subject invention have been left with the Licensor: The University of Washington subject to the provisions of 37 CFR 401 and 45 CFR 8.

Signed:

Name:

Paula Szoka, Ph.D.

Title:

Director

Invention Licensing UW TechTransfer

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C/R file(s) 7104D, 7064D, 7049D, 7188D

PATENT REEL: 017777 FRAME: 0050

RECORDED: 04/13/2006