

PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT								
NATURE OF CONVEYANCE:	ASSIGNMENT								
CONVEYING PARTY DATA									
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>ARTHUR ROBERT CALDERBANK</td> <td>09/30/2012</td> </tr> <tr> <td>ADAM N. JACOBVITZ</td> <td>09/30/2012</td> </tr> <tr> <td>DANIEL J. SORIN</td> <td>10/01/2012</td> </tr> </tbody> </table>	Name	Execution Date	ARTHUR ROBERT CALDERBANK	09/30/2012	ADAM N. JACOBVITZ	09/30/2012	DANIEL J. SORIN	10/01/2012	
Name	Execution Date								
ARTHUR ROBERT CALDERBANK	09/30/2012								
ADAM N. JACOBVITZ	09/30/2012								
DANIEL J. SORIN	10/01/2012								
RECEIVING PARTY DATA									
Name:	DUKE UNIVERSITY								
Street Address:	OFFICE OF SCIENCE AND TECHNOLOGY								
City:	DURHAM								
State/Country:	NORTH CAROLINA								
Postal Code:	27710								
PROPERTY NUMBERS Total: 1									
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>PCT Number:</td> <td>US2012057844</td> </tr> </tbody> </table>	Property Type	Number	PCT Number:	US2012057844					
Property Type	Number								
PCT Number:	US2012057844								
CORRESPONDENCE DATA									
Fax Number:	3523725800								
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NAME OF SUBMITTER:	SARAH J. KNIGHT								
Total Attachments: 4 source=Assignment-AF#page1.tif source=Assignment-AF#page2.tif source=Assignment-AF#page3.tif source=Assignment-AF#page4.tif									

CH \$40.00 US2012057844

ASSIGNMENT

WHEREAS, we, ARTHUR ROBERT CALDERBANK, ADAM N. JACOBVITZ, and DANIEL J. SORIN, residing at the addresses indicated below, have invented certain new and useful improvements for which an International Patent Application was:

filed on September 28, 2012, Serial No. PCT/US12/57844,

entitled, **SYSTEMS FOR AND METHODS OF EXTENDING LIFETIME OF NON-VOLATILE MEMORY** (the "Invention").

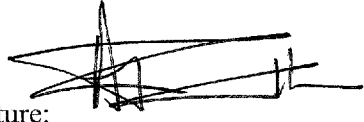
WHEREAS, DUKE UNIVERSITY, Office of Science and Technology, Durham, North Carolina, 27710 is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent which may be granted therefor in the United States and in any and all foreign countries;

NOW, THEREFORE, in view of good and valuable consideration, the sufficiency and receipt of which is hereby acknowledged, we, the undersigned, have sold, assigned, and transferred, and by these presents do sell, assign, and transfer, unto said DUKE UNIVERSITY, its successors and assigns, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries and the entire right, title, and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, and extensions thereof.

We hereby authorize and request the Patent Office Officials in the United States and in any and all foreign countries to issue any and all of said Letters Patent, when granted, to said DUKE UNIVERSITY, as the assignee of the entire right, title and interest in and to the same, for the sole use and behalf of said DUKE UNIVERSITY, its successors and assigns.


FURTHER, we agree that we will communicate to said DUKE UNIVERSITY, or its representatives, any facts known to me respecting said invention; testify in any legal proceedings; sign all lawful papers; execute all divisional, continuation, substitution, renewal, and reissue applications; execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said DUKE UNIVERSITY; make all rightful oaths; and generally do everything possible to aid the said DUKE UNIVERSITY, its successors and assigns, to obtain and enforce proper protection for said invention in the United States and in any and all foreign countries.

IN TESTIMONY WHEREOF, I have hereunto set my hand this 30 day of
September, 2012.


Signature: 
ARTHUR ROBERT CALDERBANK

Address: 1411 Woodland Drive
Durham
NC 27701.

WITNESS:

Signature: 
Printed Name: Adam Jacobvitz
Date: 9/30/2012


IN TESTIMONY WHEREOF, I have hereunto set my hand this 30th day of September, 2012.

Signature: 

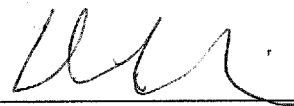
ADAM N. JACOBVITZ

Address: 1233 Berkeley St Apt B
~~10887 Hardscrabble~~
Durham, NC 27705

WITNESS:

Signature: Printed Name: A. R. CALDERBANKDate: September 30, 2012

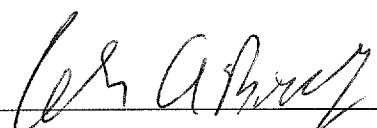
IN TESTIMONY WHEREOF, I have hereunto set my hand this 1st day of October, 2012.

Signature: 

DANIEL J. SORIN

Address: 2510 W. Wilson St.Durham, NC 27705

WITNESS:

Signature: Printed Name: JOHN A. BOARD, JR.Date: 1 OCTOBER 2012