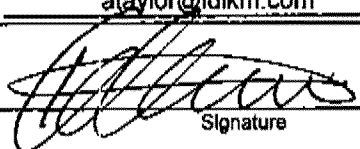


Form PTO-1595 (Rev. 03-11)
OMB No. 0651-0027 (exp. 03/31/2015)

U.S. DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

RECORDATION FORM COVER SHEET PATENTS ONLY

To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

<p>1. Name of conveying party(ies): Donal O'Mahony (02/08/2011), Venkat R. Garigapati (02/25/2011), Adrian Sun Wai (02/08/2011), Brian Hess (02/25/2011), and Additional name(s) of conveying party(ies) attached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>2. Name and address of receiving party(ies) Name: <u>Howmedica Osteonics Corp.</u> Internal Address: _____ Street Address: _____ 325 Corporate Drive City: <u>Mahwah</u> State: <u>New Jersey</u> Country: <u>United States of America</u> Zip: <u>07430</u> Additional name(s) & address(es) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>3. Nature of conveyance/Execution Date(s): Execution Date(s): <u>in parentheses after inventor name</u> <input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger <input type="checkbox"/> Change of Name <input type="checkbox"/> Security Agreement <input type="checkbox"/> Joint Research Agreement <input type="checkbox"/> Government Interest Assignment <input type="checkbox"/> Executive Order 9424, Confirmatory License <input type="checkbox"/> Other _____</p>	<p>4. Application or patent number(s): <input type="checkbox"/> This document is being filed together with a new application. A. Patent Application No.(s) <u>13/911,721</u> B. Patent No.(s) Additional numbers attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>5. Name and address to whom correspondence concerning document should be mailed: Name: <u>Kelly Y. Hwang</u> <u>LERNER, DAVID, LITTENBERG,</u> <u>KRUMHOLZ & MENTLIK, LLP</u> Internal Address: <u>Atty. Dkt.:</u> Street Address: <u>600 South Avenue West</u> City: <u>Westfield</u> State: <u>NJ</u> Zip: <u>07090</u> Phone Number: <u>908-654-5000</u> Fax Number: <u>908-654-7866</u> Email Address: <u>ataylor@ldlkm.com</u></p>	<p>6. Total number of applications and patents involved: 1</p> <p>7. Total fee (37 CFR 1.21(h) & 3.41) \$ <u>40.00</u> <input checked="" type="checkbox"/> Authorized to be charged to deposit account <input type="checkbox"/> Enclosed <input type="checkbox"/> None required (government interest not affecting title)</p>
<p>9. Signature:  _____ Signature <u>Kelly Y. Hwang - 51,831</u> Name of Person Signing</p>	<p>8. Payment Information Deposit Account Number <u>12-1095</u> Authorized User Name <u>Kelly Y. Hwang</u></p> <p style="text-align: right;">June 12, 2013 _____ Date</p> <p>Total number of pages including cover sheet, attachments, and documents: 7</p>

CH \$40.00 121095 13911721

**RECORDATION FORM COVER SHEET (PTO-1595)
(supplemental sheet)**

Additional Conveying Party(ies)/Execution Date(s) (1. Continued):

Matthew E. Murphy (02/08/2011)

Additional Assignees (2. Continued):

Assignee Name: _____

Internal Address:

Street Address:

City: _____ State: _____ Country: _____ Zip: _____

Assignee Name: _____

Internal Address:

Street Address:

City: _____ State: _____ Country: _____ Zip: _____

Assignee Name: _____

Internal Address:

Street Address:

City: _____ State: _____ Country: _____ Zip: _____

Additional Applications and/or Patents (4. Continued):

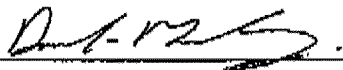

Additional Patent Application Numbers
4A. Continued:

Additional Patent Numbers
4B. Continued:

Additional numbers attached?

Yes No

former PTO/SB/16 (E-00) Modified LDLKM

ASSIGNMENT OF UTILITY APPLICATION	Docket Number (Optional) TRAUMA 3.0-579
<p>Whereas, I, <u>Donal O'Mahony</u> of <u>33 Cahertavin Meadows, Limerick, IRELAND</u> hereafter referred to as assignor, have with others invented certain new and useful improvements in <u>POST IRRADIATION SHELF-STABLE DUAL PASTE DIRECT INJECTABLE BONE CEMENT PRECURSOR SYSTEMS AND METHODS OF MAKING SAME</u></p> <p><input checked="" type="checkbox"/> for which an application for a United States Letters Patent was filed on <u>December 16, 2010</u> Application Number <u>12/970,393</u></p> <p><input type="checkbox"/> for which an application for a United States Letters Patent was executed by me on _____</p> <p>And</p> <p>Whereas, <u>Howmedica Osteonics Corp.</u> a corporation of <u>New Jersey</u> herein referred to as "assignee" whose mailing address is <u>325 Corporate Drive, Mahwah, New Jersey 07430</u> is desirous of acquiring the entire right, title and interest in the same;</p> <p>NOW, THEREFORE, in consideration of the sum of <u>one</u> dollar (\$ <u>1.00</u>), the receipt whereof is acknowledged, and other good and valuable consideration, I as assignor hereby sell, assign and set over to said assignee my entire right, title and interest for the United States of America and all other countries in and to said invention and the aforesaid utility patent application and all original, divisional, continuation, continuation-in-part, substitute or reissue applications and patents applied for or granted therefor in the United States of America and all other countries, for said invention, including without limitation all applications and patents for said invention claiming priority or benefit of the aforesaid utility application pursuant to any law or treaty, and including the right to claim such priority or benefit and the Commissioner of Patents and Trademarks is hereby authorized and requested to issue all patents on said improvements or resulting therefrom to said assignee herein, as assignee of the entire interest therein; and the undersigned for me and my legal representatives, heirs and assigns do hereby agree and covenant without further remuneration, to execute and deliver all original, divisional, continuation, reissue and other applications for Letters Patent on said improvements and all assignments thereof to said assignee or its assigns, to communicate to said assignee or its representatives all facts known to the undersigned respecting said improvements, whenever requested, to testify in any interferences or other legal proceedings in which any of said applications or patents may become involved, to sign all lawful papers, make all rightful oaths, and to do generally everything necessary to aid assignee, its successors, assigns and nominees to obtain patent protection for said improvements in all countries, the expenses incident to said applications to be borne and paid by said assignee.</p> <p>I, as assignor, hereby assign to said assignee all of my right, title and interest in United States Provisional Application No. <u>61/287,793</u>, filed <u>December 16, 2009</u>, and in the invention disclosed therein in all countries of the world including the right to claim priority or benefit of said Application No. <u>61/287,793</u> pursuant to any law or treaty in the countries of the world.</p> <p>And I do hereby authorize my attorneys to insert on this deed the filing date and application number of said application when known.</p> <p style="text-align: center;"><u>08th Feb 2011</u> Date</p> <p style="text-align: center;"> Donal O'Mahony</p> <p style="text-align: center;"> Witness</p> <p style="text-align: center;"><u>MATTHEW MURPHY</u> Typed Name of Witness</p>	
<input checked="" type="checkbox"/> *Total of <u>5</u> forms are submitted.	

former PTO/SB/15 (B-00) Modified LDLK&M

ASSIGNMENT OF UTILITY APPLICATION	Docket Number (Optional) TRAUMA 3.0-579
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Whereas, I, Venkat R. Garigapall of 27 Meadow Lane, Southborough, Massachusetts 01772 hereafter referred to as assignor, have with others invented certain new and useful improvements in **POST IRRADIATION SHELF-STABLE DUAL PASTE DIRECT INJECTABLE BONE CEMENT PRECURSOR SYSTEMS AND METHODS OF MAKING SAME** for which an application for a United States Letters Patent was filed on December 18, 2010 Application Number 12/970,393 for which an application for a United States Letters Patent was executed by me on _____ and _____

Whereas, Howmedica Osteonics Corp. a corporation of New Jersey herein referred to as "assignee" whose mailing address is 325 Corporate Drive, Mahwah, New Jersey 07430 is desirous of acquiring the entire right, title and interest in the same;

NOW, THEREFORE, in consideration of the sum of one dollars (\$ 1.00), the receipt whereof is acknowledged, and other good and valuable consideration, I as assignor hereby sell, assign and set over to said assignee my entire right, title and interest for the United States of America and all other countries in and to said invention and the aforesaid utility patent application and all original, divisional, continuation, continuation-in-part, substitute or reissue applications and patents applied for or granted therefor in the United States of America and all other countries, for said invention, including without limitation all applications and patents for said invention claiming priority or benefit of the aforesaid utility application pursuant to any law or treaty, and including the right to claim such priority or benefit and the Commissioner of Patents and Trademarks is hereby authorized and requested to issue all patents on said improvements or resulting therefrom to said assignee herein, as assignee of the entire interest therein; and the undersigned for me and my legal representatives, heirs and assigns do hereby agree and covenant without further remuneration, to execute and deliver all original, divisional, continuation, reissue and other applications for Letters Patent on said improvements and all assignments thereof to said assignee or its assigns, to communicate to said assignee or its representatives all facts known to the undersigned respecting said improvements, whenever requested, to testify in any interferences or other legal proceedings in which any of said applications or patents may become involved, to sign all lawful papers, make all rightful oaths, and to do generally everything necessary to aid assignee, its successors, assigns and nominees to obtain patent protection for said improvements in all countries, the expenses incident to said applications to be borne and paid by said assignee.

I, as assignor, hereby assign to said assignee all of my right, title and interest in United States Provisional Application No. 61/287,793, filed December 18, 2008, and in the invention disclosed thereto in all countries of the world including the right to claim priority or benefit of said Application No. 61/287,793 pursuant to any law or treaty in the countries of the world.

And I do hereby authorize my attorneys to insert on this deed the filing date and application number of said application when known.

25 Feb 2011 (Date) V. Venkatarajam (Signature)

State of MASSACHUSETTS) SS:
County of MIDDLESEX)

On this 25th day of FEBRUARY, 2011 before me personally came the above-named Venkat R. Garigapall, to me personally known as the individual who executed the foregoing instrument, who acknowledged to me that the same was executed by him/her of his/her own free will for the purposes therein set forth.

[Signature]
(Notary Public)

*Total of 5 forms are submitted.

STEPHEN J. LAWLESS
Notary Public
Commonwealth of Massachusetts
My Commission Expires September 17 2015
PATENT

former PTO/SB/18 (8-00) Modified LDLKM

ASSIGNMENT OF UTILITY APPLICATION	Docket Number (Optional) TRAUMA 3.0-579
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Whereas, I, Adrian Sun Wal of 14, Anne st.: Limerick: IRELAND hereafter referred to as assignor, have with others invented certain new and useful improvements in **POST IRRADIATION SHELF-STABLE DUAL PASTE DIRECT INJECTABLE BONE CEMENT PRECURSOR SYSTEMS AND METHODS OF MAKING SAME**

for which an application for a United States Letters Patent was filed on December 16, 2010
Application Number 12/970,393

for which an application for a United States Letters Patent was executed by me on _____

And

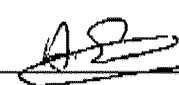
Whereas, Howmedica Osteonics Corp. a corporation of New Jersey herein referred to as "assignee" whose mailing address is 325 Corporate Drive; Mahwah, New Jersey 07430 is desirous of acquiring the entire right, title and interest in the same;

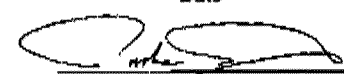
NOW, THEREFORE, in consideration of the sum of one dollar (\$ 1.00), the receipt whereof is acknowledged, and other good and valuable consideration, I as assignor hereby sell, assign and set over to said assignee my entire right, title and interest for the United States of America and all other countries in and to said invention and the aforesaid utility patent application and all original, divisional, continuation, continuation-in-part, substitute or reissue applications and patents applied for or granted therefor in the United States of America and all other countries, for said invention, including without limitation all applications and patents for said invention claiming priority or benefit of the aforesaid utility application pursuant to any law or treaty, and including the right to claim each priority or benefit and the Commissioner of Patents and Trademarks is hereby authorized and requested to issue all patents on said improvements or resulting therefrom to said assignee herein, as assignee of the entire interest therein; and the undersigned for me and my legal representatives, heirs and assigns do hereby agree and covenant without further remuneration, to execute and deliver all original, divisional, continuation, reissue and other applications for Letters Patent on said improvements and all assignments thereof to said assignee or its assigns, to communicate to said assignee or its representatives all facts known to the undersigned respecting said improvements, whenever requested, to testify in any interferences or other legal proceedings in which any of said applications or patents may become involved, to sign all lawful papers, make all rightful oaths, and to do generally everything necessary to aid assignee, its successors, assigns and nominees to obtain patent protection for said improvements in all countries, the expenses incident to said applications to be borne and paid by said assignee.

I, as assignor, hereby assign to said assignee all of my right, title and interest in United States Provisional Application No. 61/287,793, filed December 18, 2008, and in the invention disclosed thereto in all countries of the world including the right to claim priority or benefit of said Application No. 61/287,793 pursuant to any law or treaty in the countries of the world.

And I do hereby authorize my attorneys to insert on this deed the filing date and application number of said application when known.

8th Feb 2011
 Date


 Adrian Sun Wal


 Witness

MATTHEW MURPHY
 Typed Name of Witness

*Total of 5 forms are submitted.

(former PTO/SB/15 (9-00) Modified LDLKM)

ASSIGNMENT OF UTILITY APPLICATION	Docket Number (Optional) TRAUMA 3.0-579
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Whereas, I, Brian Hess of 36 Concord Street, Unit 2, Charlestown, Massachusetts 02129

hereafter referred to as assignor, have with others invented certain new and useful improvements in **POST IRRADIATION SHELF-STABLE DUAL PASTE DIRECT INJECTABLE BONE CEMENT PRECURSOR SYSTEMS AND METHODS OF MAKING SAME**

for which an application for a United States Letters Patent was filed on December 18, 2010

Application Number 12/070,393

for which an application for a United States Letters Patent was executed by me on _____ and _____

Whereas, Howmedica Osteonics Corp. a corporation of New Jersey herein referred to as "assignee" whose mailing address is 325 Corporate Drive, Mahwah, New Jersey 07430

is desirous of acquiring the entire right, title and interest in the same;

NOW, THEREFORE, in consideration of the sum of one dollars (\$ 1.00), the receipt whereof is acknowledged, and other good and valuable consideration, I as assignor hereby sell, assign and set over to said assignee my entire right, title and interest for the United States of America and all other countries in and to said invention and the aforesaid utility patent application and all original, divisional, continuation, continuation-in-part, substitute or reissue applications and patents applied for or granted therefor in the United States of America and all other countries, for said invention, including without limitation all applications and patents for said invention claiming priority or benefit of the aforesaid utility application pursuant to any law or treaty, and including the right to claim such priority or benefit and the Commissioner of Patents and Trademarks is hereby authorized and requested to issue all patents on said improvements or resulting therefrom to said assignee herein, as assignee of the entire interest therein; and the undersigned for me and my legal representatives, heirs and assigns do hereby agree and covenant without further remuneration, to execute and deliver all original, divisional, continuation, reissue and other applications for Letters Patent on said improvements and all assignments thereof to said assignee or its assigns, to communicate to said assignee or its representatives all facts known to the undersigned respecting said improvements, whenever requested, to testify in any interferences or other legal proceedings in which any of said applications or patents may become involved, to sign all lawful papers, make all rightful oaths, and to do generally everything necessary to aid assignee, its successors, assigns and nominees to obtain patent protection for said improvements in all countries, the expenses incident to said applications to be borne and paid by said assignee.

I, as assignor, hereby assign to said assignee all of my right, title and interest in United States Provisional Application No. 61/287,793, filed December 18, 2009, and in the invention disclosed thereto in all countries of the world including the right to claim priority or benefit of said Application No. 61/287,793 pursuant to any law or treaty in the countries of the world.

And I do hereby authorize my attorneys to insert on this deed the filing date and application number of said application when known.

Feb 25, 2011
(Date)

Brian Hess
(Signature)

State of MASSACHUSETTS) SS:
County of Middlesex)


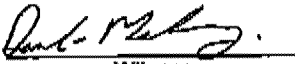
On this 25th day of FEBRUARY, 2011 before me personally came the above-named Brian Hess, to me personally known as the individual who executed the foregoing instrument, who acknowledged to me that the same was executed by him/her of his/her own free will for the purposes therein set forth.

[Signature]
(Notary Public)

*Total of 6 forms are submitted.

STEPHEN J. LAWLESS
Notary Public
Commonwealth of Massachusetts
My Commission Expires September 17 2015

former PTO/5B/15 (6-00) Modified LDLK6A

ASSIGNMENT OF UTILITY APPLICATION	Docket Number (Optional) TRAUMA 3.0-579
<p>Whereas, I, <u>Matthew E. Murphy</u> of <u>Pembrokestown House; Pembrokestown; Wexford; IRELAND</u> hereafter referred to as assignor, have with others invented certain new and useful improvements in <u>POST IRRADIATION SHELF-STABLE DUAL PASTE DIRECT INJECTABLE BONE CEMENT PRECURSOR SYSTEMS AND METHODS OF MAKING SAME</u></p> <p><input checked="" type="checkbox"/> for which an application for a United States Letters Patent was filed on <u>December 16, 2010</u> Application Number <u>12/970,393</u></p> <p><input checked="" type="checkbox"/> for which an application for a United States Letters Patent was executed by me on _____</p> <p>And</p> <p>Whereas, <u>Howmedica Osteonics Corp.</u> a corporation of <u>New Jersey</u> herein referred to as "assignee" whose mailing address is <u>325 Corporate Drive; Mahwah, New Jersey 07430</u> is desirous of acquiring the entire right, title and interest in the same;</p> <p>NOW, THEREFORE, in consideration of the sum of <u>one</u> dollar (\$ <u>1.00</u>), the receipt whereof is acknowledged, and other good and valuable consideration, I as assignor hereby sell, assign and set over to said assignee my entire right, title and interest for the United States of America and all other countries in and to said invention and the aforesaid utility patent application and all original, divisional, continuation, continuation-in-part, substitute or reissue applications and patents applied for or granted therefor in the United States of America and all other countries, for said invention, including without limitation all applications and patents for said invention claiming priority or benefit of the aforesaid utility application pursuant to any law or treaty, and including the right to claim such priority or benefit and the Commissioner of Patents and Trademarks is hereby authorized and requested to issue all patents on said improvements or resulting therefrom to said assignee herein, as assignee of the entire interest therein; and the undersigned for me and my legal representatives, heirs and assigns do hereby agree and covenant without further remuneration, to execute and deliver all original, divisional, continuation, reissue and other applications for Letters Patent on said improvements and all assignments thereof to said assignee or its assigns, to communicate to said assignee or its representatives all facts known to the undersigned respecting said improvements, whenever requested, to testify in any interferences or other legal proceedings in which any of said applications or patents may become involved, to sign all lawful papers, make all rightful oaths, and to do generally everything necessary to aid assignee, its successors, assigns and nominees to obtain patent protection for said improvements in all countries, the expenses incident to said applications to be borne and paid by said assignee.</p> <p>I, as assignor, hereby assign to said assignee all of my right, title and interest in United States Provisional Application No. <u>61/287,793</u>, filed <u>December 18, 2009</u>, and in the invention disclosed thereto in all countries of the world including the right to claim priority or benefit of said Application No. <u>61/287,793</u> pursuant to any law or treaty in the countries of the world.</p> <p>And I do hereby authorize my attorneys to insert on this deed the filing date and application number of said application when known.</p> <p><u>8th Feb 2011</u> Date</p> <p> Matthew E. Murphy</p> <p> Witness</p> <p><u>DONAL MAHONY</u> Typed Name of Witness</p>	
<input checked="" type="checkbox"/> *Total of <u>5</u> forms are submitted.	