Form PTO-1595 (R. OMB No. 0851-0027	(exp. 03/31/2015)	U.S. DEPARTMENT OF COMMERCI United States Petent and Trademark Office			
· · · · · · · · · · · · · · · · · · ·	RECORDATION FOR				
PATENTS ONLY					
To the Director	To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.				
1. Name of co	onveying party(les):	2. Name and address of receiving party(les)			
	nony (02/08/2011), Venkat R.	Name: Howmedica Osteonics Corp.			
	02/25/2011), Adrian Sun Wai				
• • • • • • • • • • • • • • • • • • • •), Brian Hess (02/25/2011), and of conveying party(les) attached? X Yes No	Internal Address:			
		Street Address:			
3. Nature of co	nveyance/Execution Date(s):				
Execution Date	(s): in parentheses after Inventor name	325 Corporate Drive			
x Assignment	Merger Change of Name				
Security Ag	reement Joint Research Agreement	City: Mahwah			
Governmen	nt Interest Assignment	State: New Jersey			
	Order 9424, Confirmatory License	Country: United States of America ZIp: 07430			
	arms oran, commission, meaner	Additional and Control			
Other _		attached?			
A. Patent Appl 13/9	ication No.(s) 911,721 Additional numbers attached?	B. Patent No.(5)			
	dress to whom correspondence	6. Total number of applications and patents involved:			
Name:	ocument should be mailed:	patents in street.			
Marrie.	Kelly Y. Hwang LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK, LLP	7. Total fee (37 CFR 1.21(h) & 3.41) \$40.00_			
Internal Address	s: Atty. Dkt.:				
Street Address:	600 South Avenue West	Authorized to be charged to deposit account Enclosed None required (government interest not affecting title			
City:	Westfield	8. Payment Information			
State:	NJ zip: 07090				
Phone Number:					
Fax Number:	908-654-7866	Deposit Account Number 12-1095			
Email Address:	ataylor@ldlkm.com_	Authorized User Name Kelly Y. Hwang			
9. Signature:	Attitus	June 12, 2013			
	Signature	Date			
	Kelly Y. Hwang - 51,831	Total number of pages including cover aheet, attachments, and documents:			
	Name of Person Signing				

3190528

PATENT REEL: 030630 FRAME: 0368

700506471

RECORDATION FORM COVER SHEET (PTO-1595) (supplemental sheet)				
Additional Conveying Party(ies)/Execution Date(s) (1. Continued):				
Matthew E. Murphy	(02/08/2011)			
Additional Assigr	nees (2. Continued)	:		
Assignee Name:				
Internal Address:				
Street Address:				
City:	State:	Country:	Zip:	
Assignee Name:			and the same of th	
Internal Address:				
Street Address:				
City:	State:	Country:	Zip;	
Assignee Name:				
Internal Address:	**************************************	-	CONTROL CONTRO	
Street Address:				
A le	Obstac	Overter.	710.	
City:	State:	Country:	Zip:	
Additional Applic	ations and/or Pater	nts (4. Continued):		
Additional Patent Applica	ation Numbers	Additional Patent Numbers 4B. Continued:		
	a same on a con-			
	Additional numbe	rs attached? Yes No		

Docket No.:

*Total of

X

5 forms are submitted.

former PTO/SB/16 (8-00) Modified LOUKSM

ACCIONMENT OF UTILITY APPLICATION	Docket Number (Optional)			
ASSIGNMENT OF UTILITY APPLICATION	TRAUMA 3.0-579			
Whereas, i, Donal O'Mahony	of			
33 Caherdavin Meadows: 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				
x for which an application for a United States Letters Patent was filed on				
Application Number 12/970,393				
for which an application for a United States Letters Pater	nt was executed by me on ,			
And				
Whereas, Howmedica Osteonics Corp.				
a corporation of New Jersey herein referred to as "assignee" wh	nose malling address is			
326 Corporate Drive; Mahwah, New Jersey 07430 Is desirous of acquiring the entire right, title and interest in the sa	smo'			
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 assignes 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-pert, substitute or release 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 eny 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 assigne of hereby agree and covenant without further remuneration, to execute and deliver all original, divisional, continuation, release and other applications for Letters Patent on said improvements and all easignments 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 ald assignee, its successors, assigns and nominees to obtain patent protection for said improvements in all countries, the expanses incident to said applications to be borne and paid by said assignee.				
And I do hereby authorize my attorneys to insert on this deed the when known.	e Illing date and application number of said application			
08th Fes 2011	01-125.			
Date	Donal O'Mahony			
Witness				
Typed Name of Witness				

LDLKM

PATENT REEL: 030630 FRAME: 0370

	former PTQ/SB/15 (8-00) Modified LOLK	
ACCIONISTRIT OF LITH ITY ADDITOATION	Dockel Number (Optional)	
ASSIGNMENT OF UTILITY APPLICATION	TRAUMA 3.0-579	
Whereas, I, Venkat R. Garlgapati	of	
27 Meadow Lane; Southborough, Messachusetts 01772		
hereafter referred to as assignor, have with others invented certain methods in the POST IRRADIATION SHELF-STABLE DUAL PASTE CEMENT PRECURSOR SYSTEMS AND METHODS X for which an application for a United States Latters Pate	OF MAKING SAME	
Application Number 12/970,393 for which an application for a United States Letters Pater and	nt was executed by me on	
Whereas, Howmedica Osteonics Corp. a corporation of New Jersey herein referred to as "assignee" whose regions 225 Corporate Drive; Mahwah, New Jersey 07430 is desirous of acquiring the entire right, title and interest in the same;	mailing address is	
NOW, THEREFORE, in consideration of the sum of <u>one</u> 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 application and all original, divisional, continuation, continuation-in-part, aubstitute or reissue applications and patents application and all original, divisional and patents for said invention claiming priority or benefit of the eforesaid 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 essigns do hereby agree and covenant without further remuneration, to execute and deliver all original, divisional, continuation, relessue 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 bome 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 invanion 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 fill when known.	, 0	
State of <u>MASSACHUSETTS</u>) SS: County of <u>MINDUSSEX</u>)	(Signature) personally came the above-named Venkat R. the foregoing instrument, who acknowledged to me purposes therein set forth.	

STEPHEN J. LAWLESS

Notary Public

Commonweakh of Messachuselts

My Commission Expires September 17 2016

PATENT

REEL: 030630 FRAME: 0371

	former PTO/58/18 (6-00) Modified LOLKAM	
	Docket Number (Optional)	
ASSIGNMENT OF UTILITY APPLICATION	TRAUMA 3.0-579	
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 PRECURSORISYSTEMS AND METHODS OF MAKING SAME		
x for which an application for a United States Letters Palent was filed on December 16, 2010		
Application Number 12/970,393		
x for which an application for a United States Letters Paten	it was executed by me on ,	
And		
Whereas, Howmedica Osteonics Corp.		
a corporation of New Jersey herein referred to as "essignee" wh	ose malling address is	
325 Corporate Drive; Mahwah, New Jersey 07430		
le desirous of acquiring the entire right, title end interest in the se	me;	
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 assignes 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 calming priority or benefit of the aforesaid utility application pursuant to any law or treaty, and including the right to claim such patents on said improvements or resulting therefrom to said assignes herein, as assignes 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, release and other applications for Letters Petent on said improvements and all assignments thereof 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 Decamber 18, 2009, and in the invention disclosed literato in all countries of the world.		
And I do hereby authorize my altorneys to insert on this deed the when known.	A filing date and application number of seld application	
8th Feb 32211	42	
Dale	Adrian Sun Wal	
Matterson		
Witness		
Typed Name of Witness		
Total of 5 forms are submitted.		

PATENT

REEL: 030630 FRAME: 0372

•	(ormer PTO/SB/16 (8-00) Modified LDLIC		
ASSIGNMENT OF UTILITY APPLICATION	Docket Number (Optional)		
ASSIGNMENT OF CHERT AFFEIGATION	TRAUMA 3.0-579		
Whereas, I. Brian Hess	of		
36 Concord Street; Unit 2; Charlestown, Massachusetts 02129			
hereafter referred to as assignor, have with others invented certain n			
POST IRRADIATION SHELF-STABLE DUAL PASTE DIRECT INJECTABLE BONE			
CEMENT PRECURSOR SYSTEMS AND METHODS OF MAKING SAME			
[X] for which an application for a United States Letters Pat	ent was filed on		
Application Number 12/970,393	AND CONTROL OF THE PARTY OF THE		
for which an application for a United States Letters Pater	nt was executed by me on,		
and			
Whereas, Howmedica Osteonics Corp.			
a corporation of New Jersey herein referred to as "assignee" whose	malling address le		
325 Corporate Drive; Mahwah, New Jersey 07430	99		
Is desirous of acquiring the entire right, title and interest in the same;			
NOW, THEREFORE, in consideration of the sum of one one	Iollare (\$ 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 invention and the aforesaid utility patent application and all original	or America and all other countries in and to said		
substitute or reissue applications and patents applied for or grante	d therefor in the United States of America and all		
other countries, for said invention, including without limitation all a	optications and patents for said invention claiming		
priority or benefit of the aforesald utility application pursuant to any priority or benefit and the Commissioner of Patents and Trademan	law or treaty, and including the right to claim such		
patents on said improvements or resulting therefrom to said assigns	e herein, as assignee of the entire interest therein:		
and the undereigned for me and my legal representatives, helrs ar	nd assigns do hereby agree and covenant without		
further remuneration, to execute and deliver all original, divisional Letters Patent on said improvements and all assignments thereof to	i, continuation, relative and other applications for		
sald assignee or its representatives all facts known to the under	rsigned respecting sald 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,			
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 at	ad Interest in Links of Chairs Decideral Application		
No 61/287.793, filed December 18, 2009, and in the invention disci	losed thereto in all countries of the world including		
the right to claim priority or benefit of said Application No. 61/287.7	93 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 fill	ng date and application number of said application		
when known,			
r / 25 2011			
Feb 25,2011	Duan XX A		
(Date)	(Signature)		
State of MISACHUSUTS) SS:	1		
County of Miller's 432)			
On this 25 day of FEGURIAY . 2011 before me pe	ersonally came the above-named Brian Hess, to		
me gareonally kgown as the individual who executed the foregoing instrument, who acknowledged to me that the eame (
was executed by him/her of his/her own free will for the purposes therein set forth.			
SAMOUN	,		
(Notery Public)			
*Total of 6 forms are submitted.			

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

	former PTO/SE/(8 (8-00) Modified LDLK6/		
ACCIONMENT OF LITTLITY APPLICATION	Docket Number (Optional)		
ASSIGNMENT OF UTILITY APPLICATION	TRAUMA 3.0-579		
Whereas, I, Matthew E. Murphy	of of		
Pembrokestown House: Pembrokestown: Wexford: IREL			
hereafter referred to se assignor, have with others invented certe POST IRRADIATION SHELF-STABLE DUAL PASTE PRECURSOR SYSTEMS AND METHODS OF MAKIN	DIRECT INJECTABLE BONE CEMENT		
X for which an application for a United States Letters Pate	ent was filed on December 16, 2010		
Application Number 12/970,393			
x for which an application for a United States Letters Paten	it was executed by me on,		
And			
Whereas, Howmedica Osteonics Corp.			
e corporation of New Jersey herein referred to as "assignee" wh	ose mailing ecorese is		
325 Corporate Drive; Mahwah, New Jersay 07430 Is desirous of acquiring the entire right, title and interest in the sa	(ma'		
is destroits or sodmireft trie errore utility two order present are an			
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 aforeaeld utility patent application and all original, divisional, continuation-in-part, substitute or release applications and patents explication and all original, divisional, continuation-in-part, substitute or release applications and patents for said invention, including without limitation all applications and patents for seld invention calming priority or benefit of the aforeaeld 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 antire interest therein; and the undersigned for me and my legal representatives, heirs and assignee of the antire interest to said assignee or its representatives all facts known to the undersigned respecting seld 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 at lawful papers, make all rightful ceths, and to do generally everything necessary to add assignee, its successors, essigns and nominees to obtain patent protection for said improvements in all countries, the expenses incident to said applications to be bome and paid by said assignee. 1, as assignor, hereby assign to said assignee all of my right, title end interest in United States Provisional Application No 61/287.793, filled 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 payment			
when known.			
85 Feb 2011	24 8		
Date	Matthew E. Murphy		
0 4 4	eximisers and anomal facility		
Hard-Mary.			
Witness			
LONAL - MAHONY			
Typed Name of Witness			
x *Total of 5 forms are submitted.	100000000000000000000000000000000000000		

LDLKM

PATENT

REEL: 030630 FRAME: 0374