Ø 007	
-------	--

	85847.00004
Form PTO-1595 RECORDATION FOR	M COVER SHEET U.S. DEPARTMENT OF COMMERCE U.S. Patent and Trademark Office
(Rev. 03/01) OMB No. 0651-0027 (exp 6/30/2005) PATEN	TS ONLY
Tab settings \Rightarrow \Rightarrow \Rightarrow \checkmark \checkmark	
To the Honorable Commissioner of Patents and Trademarks	Please Record the attached original documents or copy thereof.
 Name of conveying party(ies): 	
1. Florian Niklas Ludwig	2. Name and address of receiving party(ies)
	Name: Advanced Cardiovascular Systems, Inc.
	Street Address: 3200 Lakeside Drive
Additional name of conveying party(ies) attached? Yes 🛛 No	City: Santa Clara State: CA Zip: 95054
3. Nature of conveyance:	Additional Name(s) & address(es) attached? 🗔 Yes 🖾 No
Other	
Execution Dates: August 7, 2006	· · · · · · · · · · · · · · · · · · ·
 4. Application number(s) or patent number(s): If this document is being filed together with a new applicat A. Patent Application No.(s) 11/453,704 	ion, the execution date of the application is: B. Patent No.(s)
	nttophod2 🗆 Vas 🕅 No
	attached? 🗌 Yes 🛛 No
Name and address of party to whom correspondence concerning this document should be mailed:	6. Total number of applications and patents involved:
Name: Cameron K. Kerrigan, Reg. No. 44,826	7. Total fee (37 CFR 3.41) \$ <u>40.00</u>
Address: Squire, Sanders & Dempsey L.L.P.	
Street Address: One Maritime Plaza, Suite 300	Authorized to be charged to deposit account
City: San Francisco State: CA Zip: 94111	8. Deposit account number:
	07-1850
	(Attach duplicate copy of this page if paying by deposit account)
DO NOT U	SE THIS SPACE
9. Statement and signature.	
To the best of my knowledge and belief, the foregoing inf is a true copy of the original document. Zhaoyang Lj, Ph.D.	August 9, 2006
Name of Person Signing	
Total number of pages includin	g cover sheet, attachments, and documents: 3

SANFRANCI\$CO/190690.1 700280785

Attorney Docket: 85847.00004

.

ASSIGNMENT

(1-8) Insert Name(s) of Inventor(s) (1) Florian Niklas Ludwig

For good and valuable consideration, receipt of which is hereby acknowledged, the undersigned agree(s) to assign, hereby do(es) assign, transfer and set over to:

. .

- Advanced Cardiovascular Systems, Inc. (9) (9) Insert Name of Assignee Insert State of Incorporation of (10) California (10)Assignee 95054 of: 3200 Lakeside Drive, Santa Clara, CA (11) (11) Insert Address of Assignee (hereinafter designated as the Assignee) the entire worldwide right, title, interest, and patent applications and patents for every country, including divisions, reissues, continuations and all other extensions, rights and priorities in the invention known as and related to Nanoshell Therapy (12)Insert Identification of Invention, (12) such as Title, Case Number or (Case No.85847.00004) (Serial No. 11/453,704) for which Foreign Application Number the undersigned has (have) executed an application for patent in the United States of America Insert Date of Signing of (13) August 7, 2006 (13)
- 1) The undersigned agree(s) to execute all papers necessary in connection with the application and any continuing or divisional applications thereof and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.
- 2) The undersigned agree(s) to execute all papers necessary in connection with any interference which may be declared concerning this application or continuation or division thereof and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference.
- 3) The undersigned agree(s) to execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.

SANFRANCISCO/188481.1

Application

Attorney Docket: 85847.00004

- 4) The undersigned agree(s) to perform all affirmative acts which may be necessary to obtain a grant of a valid United States patent to the Assignee.
- 5) The undersigned hereby authorize(s) and request(s) the Commissioner of Patents and the duly constituted authorities of foreign countries to issue any and all Letters Patents resulting from said application or any division or divisions or continuing or reissue applications thereof to the said Assignee, its successors and assigns, as Assignee of the entire right, title and interest, and hereby covenants that he has (they have) full right to convey the entire interest herein assigned, and that he has (they have) not executed and will not execute any agreement in conflict herewith.
- 6) The undersigned hereby grant(s) practitioners associated with Customer Number

45159

the power to insert on this assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

Date _	8 2006	Name of Inventor	_
		Florian Niklas Ludwig	

PTO/SB/97 (05-03) Approved for use through 04/30/2003, OMB 0851-0031 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE Under the Paperwor <u>k</u> Reduction Act of 1995, no persons are requi red to respond to a collec <u>tion of Information unless it contains a valid OMB control number</u> .
Certificate of Transmission under 37 CFR 1.8
I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office
onDate
22
Signature
Zhaoyang Li, Ph.D.
Typed or printed name of person signing Certificate
Note: Each paper must have its own certificate of transmission, or this certificate must identify each submitted paper.
Transmittal Form Fee Transmittal (in duplicate) Recordation Form Cover Sheet (in duplicate) Assignment
This collection of Information is required by 37 CFR 1.8. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to

This collection of Information is required by 37 CFR 1.8. The information is required to obtain or retain a barrent by the poolic which is the (and by ite Ost of a process) an application. Confidentially is governed by 35 U.S.C. 122 and 37 CFR 1,14. This collection is estimated to take 1.5 minutes to complete, including gathering, preparing, and aubiniting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1460, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

.

PATENT REEL: 018090 FRAME: 0420

.

PTO/SB/21 ((08-03)
E I Q/QD/ZT Y	00-007

Please type a plus sign (+) Inside this box>	÷
--	---

Approved for use through 08/30/03, OMB 0651-0031	
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE	

Under the Paperwork Reduction Act of 1985, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

	 *		Application Number	11/453,70	4		
TRANSMITTAL			Filing Date	June 14, 2	2006		
FOR	RM		First Named Inventor	Florian N.	Ludwig		
(to be used for all correspo	ndence after ini	ltial filing)	Group Art Unit	1618			
			Examiner Name	Unassigne	ed		
Total Number of Pages in Th (excluding references)	nis Submission	8	Attorney Docket Number	85847.000)04		
		ENCLO	DSURES (check all that apply)				
Deposit Account 07-165 Authorization	i0		ment Papers (4 pages) Application)	After Al Group	lowance Communication to		
Postage Paid Return Po	ostcard	Drawin Drawin	g(s) In/Formal Sheets with ssion of Drawings Transmittal	Appeal	Communication to Board of s and interferences		
Response		(in dup			Communication to Group Notice, Brief, Reply Brief)		
Amendment Transmitta duplicate)	l Letter (in	Transn	st for Continued Examination nittal (RCE)	Proprie	tary Information		
Declaration		Fee Tr duplica	ansmittal Form (1 page) (in ate)		st for Status of Application		
Petition for Extension of month) (in duplicate)	f Time (of Attorney, Revocation e of Correspondence Address		Enclosure(\$) identify below):		
Information Disclosure Statement			nal Disclaimer st for Refund		tificate of Transmission der 37 CFR 1.8 (1 page)		
Express Mail Label No.		🗌 ÇD, NI	umber of CD(\$)				
Certified Copy of Priorit Document(s)	у	Rema	irks				
Response to Missing Pa Incomplete Application	arts/		_				
Response to Missir Parts under 37 CFf 1.52 or 1.53				<u> </u>			
	SIGNA	TURE OF	APPLICANT, ATTORNEY, O	R AGENT			
Firm or Individual name	Firm Squire, Sanders & Dempsey L.L.P.						
Signature							
Date Aug		<u> </u>					
		_	RTIFICATE OF MAILING				
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.							
Typed or printed name	Rebecca M. I	Clits					
Signature	Febel	La 72	7. Blits _	Date	August 9, 2006		

SQUIRE SANDERS & DEMPSEY

Ø 004

PTO/SB/17 (10-04v2) Approved for use through 07/31/2006. OMB 0651-0032

U.\$.	Pate	ent and	Tradema	irk Off	fice: U.S	S. DEP.	ARIMENIU	ЭН СОММЕКСЕ
					1. 11		IL L CALIER	a second according a

Under the Papervork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

						Complete If Known		
FEE TRANSMITTAL			ation Nu	3,704				
for FY 2006			Date	14, 2006				
			First Named Inventor Florian N. Ludwig					
Effective 10/01/2004. Patent fees are subject to annual revialon.		Exami	Examiner Name Unassigned					
Applicant claims small entity status. See 37 CFR 1	.27	Art Un	it		1618			
TOTAL AMOUNT OF PAYMENT (5) 40.00		Attorn	ey Dock	et No.	5 5 847	7,00004		
METHOD OF PAYMENT (check all that apply)					FEE	E CALCULATION (continued)		
		3. AD	DITIO	VAL FE	ES			
Çrder		Large	Entity	Small E	intity			
Deposit Account:	_	Fee	Fee	Fee	Fee	Fee Description Fee Paid		
Deposit		Code 1051	(S) 130	Code 2051	(5) 6ý	Surcharge - late filing fee or oath		
Account 07-1850 Number		1052	50 50	2052	25	Surcharge - late provisional filing foc or cover shoet.		
Deposil	7	1053	130	1053	130	Non-English specification		
Account Squire, Sanders & Dempsey L.L.P. Name		1812	2,520	1912	2,520	For filing a request for <i>ex parte re</i> examination		
The Director Is authorized to: (check all that apply) S Charge fee(a) Indicated below S Credit any overpayments	_	1904	920*	1804	920*	Requesting publication of SIR prior to		
 Charge rea(s) indicated below (a) Credit any overpayments Charge any additional fee(s) or any underpayment of fee(s) Charge fee(s) indicated below, except for the filing fee 		1505	1,8401	1805	1,840*	Requesting publication of SIR after		
to the above-Identified deposit account.		1251	110	2251	55	Extension for reply within first month		
FEE CALCULATION		1252	430	2252	21\$	Extension for reply within second month		
1. BASIC, FILING FEE		1253	980	2253	490	Extension for reply within third month		
Large Entity Small Entity		1254	1,530	2254	765	Extension for reply within fourth month		
Fee Fec Fee Fee <u>Fee Description</u> Code (\$) Codc (\$)Fee Pai	d	1255	2.080	2255	1,040	Extension for reply within fifth month		
1001 300 2001 150 Utility Ming fee		1401	340	2401	170	Notice of Appeal		
1002 200 2002 100 Design filing fcc		1402	340 300	2402 2403	170 150	Filing a brief in support of an appeal Request for oral hearing		
1003 200 2003 100 Plant filing fee		1403 1451	1,510	1451	1,510	Petition to Institute a public use proceeding		
1004 300 2004 150 Relasus filing fes	_	1452	110	2452	55	Petillion to revive – unavoidablo		
		1453	1,370	2453	685	Petition to revive – unintentional		
SUBTOTAL (1) (\$)		1501	1,370	2501	685	Utility issue fee (or reissue)		
2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE		1502	490	2502	245	Design lesue fee		
Fee from		1503	660	2503	330	Plant lasue fee		
Extra Claims below Fee F	^z alu	1460	130	1460	130	Petitions to the Commissioner		
		1807	50	1807	50	Processing fee under 37 CFR 1.17 (q)		
Claims -3 = X 200 =		1806	180	1806	190	Submission of Information Disclosure Strnt		
Multiple x = 0		8021	40	ę021	40	Recording each patent assignment per 40		
Large Entity Small Entity		1809	790	2809	395	Filing a submission after final rejection (37 CFR § 1.129(a))		
Fee Fee Fee Fee Description Code (\$) Code (\$) Fee Description 1202 §0 2202 25 Claims in excess of 20		1810	790	2810	395	For each additional invention to be examined (37 CFR §-1.129(b))		
1201 200 2201 100 Independent claims in excess of 3 1203 360 2203 160 Multiple dependent claim, if not pe		1801	790	2801	395	Request for Continued Examination (RCE)		
1204 200 2204 100 ^{**} Reissue Independent dalms eve original patent		1311	200	2311	100	Utility Examination Fee		
1205 50 2205 25 "Reissue claims in excess of 20 over original patent	Other 1	fee (spcc	;ify) <u>Utilit</u> y	/ Search	1 Fee .			
SUBTOTAL (2) (\$)		"Redu	iced by E	Basiç Filir	ig Fee P	2ald (§) 40		
* or number previously paid, if greater, For Relasues, see abovo	or number previously paid, if greater, For Reissues, see abovo							
SUBMITTED BY		_		1		Complete (If applicable)		
Name (Print/Type) Zheoyang U, Ph.D. Registrat	lan No. ((Attorney)	'Agent)	46.672		Telephone (415) 95 4-0200		
Signeture						Date August 9, 2006		

WARNING: Jefformation on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038. This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to fite (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the information and authorization of the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office. U.S. Department of Commerce, P.O. Box 1450. Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing this form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

SQUIRE SANDERS & DEMPSEY

🛛 005

PTO/SB/17 (10-04v2)

Approved for use through 07/31/2006. OMB 0651-0032 U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

a Paperwork Reduction Act of 1995, no persons are required to respond to a collection of Information unless it displays a valid OMB control number.

Under the Paperwork Reduction Act of 1990, no persons are required to					Complete if Known		
FEE TRANSMITTAL							
	· · ·						
for FY 2006	Filing Date June 14, 2006						
Effective 10/01/2004, Patent fees are subject to annual revision.	First Nar	ned in	ventor_	_	n N. Ludwig		
	Examine	r Nam	8	Unass	lgned		
Applicant claims small entity status. See 37 CFR 1.27	Art Unit			1618			
TOTAL AMOUNT OF PAYMENT (\$) 40.00	Attomey	Docke	st <u>No</u> .	85847			
METHOD OF PAYMENT (check all linst apply)	3. ADD				CALCULATION (continued)		
🗋 Check 🔲 Credit card 🔲 Money 🔲 Other 🗌 None							
Order Ø Deposit Account:	<u>Large_E</u>		Şmall E				
		Fos (S)	Fee Code	Fee (5)	Pee Description	Fee Paid	
Deposit Account 07-1850		130	2051	65	Surcharge - late filling fee or oath		
Number	1052 9	50	2052	25	Surcharge - tate provisional filing fee or c sheet.	tover	
Deposit	1053	130	1053	130	Non-English specification	 ···· −	
Account Squire, Sanders & Dempsey L.L.P.		2,520	1812	2,520	For filing a request for <i>ax parte re</i> examin	ation	
Name The Director is authorized to: (check all that apply)		920-	1804	920*	Requesting publication of SIR prior to Examiner action		
 Charge fee(s) indicated below Credit env overpayments Charge any additional fee(s) or any underpayment of fee(s) Charge fee(s) indicated below, except for the filing fee 	1805	1, 840*	1805	1,840*	Requesting publication of SIR after Examiner action		
to the above-identified deposit account.	1251	110	2251	55	Extension for reply within first month		
FEE CALCULATION	1252 ·	430	2262	215	Extension for reply within second month		
1. BASIC, FILING FEE	1253	980	2253	490	Extension for reply within third month		
Large Entity Small Entity	1254	1,530	2254	766	Extension for roply within fourth month		
Fee Fee Fee Fee <u>Fee Description</u> Code (\$) Code (\$) Fee Paid	1255 :	2.080	2255	1,040	Extension for reply within fifth month		
1001 300 2001 150 Utility filing fec	1401 :	340	2401	170	Notice of Appeal		
1002 200 2002 100 Design filing fee	1402	340	2402	170	Filling a brief in support of an appeal		
1003 200 2003 100 Plant filing fee		300	2403	150	Request for oral hearing		
1004 300 2004 150 Reissue filing fee		1,510	1451	1,510	Petition to Institute a public use proceed	ing	
1005 200 2005 100 Provisional filling fee		110	2 452	55	Petition to revive – unavoidable		
SUBTOTAL (1)		1,370	2453	88Ś	Petition to revive – unintentional		
	4	1,370	2501	68 5	Utility Issue fee (or reissue)		
2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE Fee from		490	250Z	245 330	Design issue fee		
Extra Claims below Fee Paid		660	2503 1460	130	Plant issue fee Petitions to the Commissioner		
Total Claims20 ** = X _50 =		130 60		50		<u> </u>	
Independent _3 ** = X 200 =		180	1807 1806	50 180	Processing fee under 37 CFR 1.17 (9) Submission of Information Disclosure St	<u> </u>	
	1808	190	1000		Recording each patent assignment per		
Multiple X C C C C C C C C C C C C C C C C C C	8021	40	8021	40	property (times number of properties)	40	
Large Entity Small Entity	1609	790	2809	395	Filing a submission after final rejection		
Fee Fee Fee Fee Description		-			(37 CFR § 1.129(a))		
Code (\$) Code (\$) <u>Personal and the constant of 20</u> 1202 \$0 2202 25 Claims in excess of 20	1910	790	2810	395	For each additional invention to be examined (37 CFR § 1.129(b))		
1201 200 2201 100 Independent claims in excess of 3 1203 360 2203 180 Multiple dependent claim, if not pold	1801	790	2801	395	Request for Continued Examination (RCE	:)	
1204 200 2204 100 ⁴⁴ Relasue Independent claims over original patent	1311	200	2311	100	Utility Examination Fee		
1205 50 2205 25 Traces of 20 and over original patent	Other fee	: (speci	ily) Littliv	Search	Eeq		
SUBTOTAL (2) (\$)			asic Filin		ald bia		
**or number previously paid, if greater, For Reissues, see above							
SUBMITTED BY Complete (if <u>applicable</u>)							
Name (Print/Type) Zhaoyeng Li, Ph.D. Registration No. (Attorney/Agent) 48,872 Telephone (415) 954-0200							
Signature					Dale August 9, 2006		
WARNING: Laformation on this form may become public. Credit card information should not be							

WARNING: Jaformation on this form may become public. Credit card information should not be Included on this form. Provide credit card information and authorization on PTO-2038. This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or relatin a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Pations, P.O. Box 1450, Alexandria, VA 22313-1450. If your need assistance in completing this form, call 1-800-PTO-9199 (1-800-785-9199) and select option 2.



LEGAL Counsel Worldwide SQUIRE, SANDERS & DEMPSEY L.L.P.

One Maritime Plaza, Suite 300 San Francisco, CA 94111-3492 Office: +1.415.954.0200 Fax: +1.415.393.9887

Preferred Fax: _____ If Problems: _____

9

August 9, 2006

PLEASE DELIVER THESE PAGES IMMEDIATELY

Number of Pages (including cover):

Message: Please see attached.

CONFIDENTIALITY NOTICE:

The attached information is LEGALLY PRIVILEGED AND CONFIDENTIAL and is intended only for the use of the addressee named above. If the reader of this message is not the intended recipient or the employee or agent responsible for delivering the message to the intended recipient, please be aware that any dissemination, distribution or duplication of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and return the original message to us at the address above via the postal service. Thank you.

Sender No.:	08595	85847.00004	Rebecca Klits		
Sender Ivo		Account No.	Return to Office		
T 1 3T					

Job No:

www.ssd.com

PATENT REEL: 018090 FRAME: 0424

SANFRANCISCO/190694.1

•

	85847.00004
Form PTO-1595 RECORDATION FORM	I COVER SHEET U.S. DEPARTMENT OF COMMERCE U.S. Patent and Trademark Office
OMB No. 0651-0027 (exp 6/30/2005) PATENTS ONLY	
Tab settings \Rightarrow \Rightarrow \Rightarrow \checkmark \checkmark	• • • • •
	Please Record the attached original documents or copy thereof.
 Name of conveying party(ies): 1. Florian Niklas Ludwig 	2. Name and address of receiving party(ies) Name: Advanced Cardiovascular Systems, Inc. Street Address: 3200 Lakeside Drive
Additional name of conveying party(ies) attached? 🔲 Yes 🛛 No	City: Santa Ciara State: CA Zip: 95054
3. Nature of conveyance:	Additional Name(s) & address(es) attached? 🗌 Yes 🛛 No
Security Agreement Change of Name Other Execution Dates: August 7, 2006	
If this document is being filed together with a new applicatio A. Patent Application No.(s) 11/453,704	n, the execution date of the application is: B. Patent No.(s)
Additional numbers att	ached? 🔲 Yes 🛛 <u>No</u>
 Name and address of party to whom correspondence concerning this document should be mailed: 	6. Total number of applications and patents involved:
Name: Cameron K. Kerrigan, Reg. No. 44,826	7. Total fee (37 CFR 3.41)\$ <u>40.00</u>
Address: Squire, Sanders & Dempsey L.L.P.	
Street Address: One Maritime Plaza, Suite 300	Authorized to be charged to deposit account
City: San Francisco State: CA Zip: 94111	 8. Deposit account number: 07-1850 (Attach duplicate copy of this page if paying by deposit account)
DO NOT US	
 9. Statement and signature. To the best of my knowledge and belief, the foregoing infon is a true copy of the original document. <u>Zhaovano Li, Ph.D.</u> 	August 9, 2006
Name of Person Signing	Signature Date
Total number of pages including	cover sheet, attachments, and documents: 3

SANFRANCISCO/190690.1 RECORDED: 08/09/2006