05-12-2000 U.S. Department of Commerce FORM PTO-1619A Patent and Trademark Office Expires 06/30/99 OMB 0651 7027 PATENT TO ATR 23 PM 3: 57 101354390 OFR/FIHANCE RECORDATION FORM COVER SHEET PATENTS ONLY TO: The Commissioner of Patents and Trademarks: Please record the attached original document(s) or copy(ies) Conveyance Type Submission Type X **Assignment Security Agreement** New Resubmission (Non-Recordation) License Change of Name Document ID# Correction of PTO Error Other Merger Reel# Frame # U.S. Government (For Use ONLY by U.S. Government Agencies) Corrective Document Reel# Frame # Departmental File **Secret File** Conveying Party(ies) Mark if additional names of conveying parties attached **Execution Date** Month Day Year Name (line 1) Michael B. Miller 02-09-2000 Name (line 2) Execution Date Month Day Y Year Second Party Name (line 1) Name (line 2) Mark if additional names of receiving parties attached Receiving Party if document to be recorded Name (line 1) Luna Innovations, Inc. is an assignment and the receiving party is not domiciled in the United Name (line 2) States, an appointment of a domestic representative is attached. Address (line 1) 2851 Commerce Street (Designation must be a separate document from Assignment.) Address (line 2) Address (line 3) | Blacksburg Virginia/U.S.A 24060 **Domestic Representative Name and Address** Enter for the first Receiving Party only. Name

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Mail documents to be recorded with required cover sheet(s) information to:

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REEL: 010771 FRAME: 0320

FORM PTO-1619B Expires 06/30/99 OMB 0651-0027	Page 2	U.S. Department of Commerce Patent and Trademark Office PATENT
Correspondent Name and Addres	S Area Code and Telephone Number (757)	220-3927
Name Joy L. Bryant		
Address (line 1) P.O. Box 590		
Address (line 2) Lightfoot, Virginia	a 23090	
Address (line 3)		
Address (line 4)		
Pages Enter the total number of including any attachmen	pages of the attached conveyance document ts.	# 2
Application Number(s) or Patent N	<u> </u>	al numbers attached
Enter either the Patent Application Number or to Patent Application Number(s)	he Patent Number (DO NOT ENTER BOTH numbers for the s Patent Numl	
09/502,130 (5)		
If this document is being filed together with a new F	Patent Application, enter the date the patent application was	Month Day Year
signed by the first named executing inventor.		
Patent Cooperation Treaty (PCT)	PCT PCT	РСТ
Enter PCT application number only if a U.S. Application Num		PCT
has not been assigned.	PCI	
Number of Properties Enter the total number of properties involved. # 1		
Fee Amount for Properties Listed (37 CFR 3.41): \$ 40.00		
Method of Payment: En	closed X Deposit Account	
(Enter for payment by deposit account or if additional fees can be charged to the account.) Deposit Account Number: #		
	Authorization to charge additional fees: Yes	No No
Statement and Signature		
To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Charges to deposit account are authorized, as indicated herein.		
Joy L. Bryant	ty & siyaset	4-20-00
Name of Person Signing	Signature J	Date

PATENT REEL: 010771 FRAME: 0321

ASSIGNMENT

WHEREAS, I, Michael B. Miller, of 1140 Sherwood Drive, Christiansburg, Virginia 24073, have invented certain new and useful improvements concerning a "Non-Lithographic Process for Producing Nanoscale Features on a Substrate" ("Invention"), for which I am about to make an application for Letters Patent of the United States; and

WHEREAS, Luna Innovations, Inc.. a corporation duly organized under the laws of the Commonwealth of Virginia and having its principal place of business at 2851 Commerce Street, Blacksburg, Virginia 24060 is desirous of acquiring an interest in, to and under said Invention and improvements thereon, said application, and any and all Letters Patent which may be granted for or upon said Invention and improvements in the United States of America and all countries foreign thereto;

NOW, THEREFORE, to all whom it may concern, be it known that in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I have sold, assigned and transferred, and by these presents do sell, assign and transfer unto said Luna Innovations, Inc. the full and exclusive right, title and interest, throughout the world, in, to and under said Invention as fully set forth and described in the specification prepared and executed by me on 219/00 [even date herewith] preparatory to obtaining Letters Patent of the United States therefor, and in any improvements on the Invention heretofore or hereafter made or acquired by me: in, to and under said application and additional applications covering the Invention and improvements; in, to and under any and all refilings, divisions and continuations of said applications; in, to and under any and all Letters Patent of the United States of America which may issue from said applications, refilings, divisions and continuations; in, to and under any and all reissues of said Letters Patent of the United States of America: in, to and under any and all applications for Letters Patent upon said Invention and any improvements thereto which may hereafter be filed in any and all countries foreign to the United States of America; in, to and under any and all refilings, divisions and continuations of said foreign-filed applications; in, to and under any and all Letters Patent of countries foreign to the United States of America, which may issue from the said foreign-filed applications, refilings, divisions and continuations; and in, to and under any and all extensions of, and additions to, said Letters Patent of countries foreign to the United States of America, the same to be held and enjoyed by said Luna Innovations, Inc. for its own use and behoof, and for its successors, legal representatives and assigns, to the full end of the term for which said Letters Patent may be granted, and I do hereby authorize and request the Commissioner of Patents to issue the said Letters Patent in accordance with this assignment.

FURTHERMORE, I covenant and agree to cooperate with Luna Innovations, Inc. so that Luna Innovations, Inc. may enjoy to the fullest extent the right, title, and interest herein conveyed. Such cooperation shall include:

- (1) Prompt execution of all papers, to be prepared at the expense of Luna Innovations, Inc., that are deemed necessary or desirable by Luna Innovations. Inc. to perfect the right, title, and interest herein conveyed.
- (2) Prompt execution of all petitions, oaths, specifications, declarations or other papers, to be prepared at the expense of Luna Innovations, inc., that are deemed necessary or desirable by Luna Innovations, Inc. for prosecuting the application identified herein, for filing and prosecuting refilings, substitute, divisional, continuing, or additional applications in the United States and/or foreign countries covering the Invention and improvements, for filing and prosecuting applications for reissuance of Letters Patent covering the Invention and improvements, or for interference proceedings involving the Invention and improvements.
- (3) Prompt assistance and cooperation in the prosecution of legal proceedings involving the Invention and improvements, any and all applications for Letters Patent upon said Invention and improvements, and Letters Patent granted thereon, including oppositions, cancellation proceedings, priority contests, interferences, public use proceedings and court actions.

EXECUTED this 9th day of February, 2000.

MICHAEL B. MILLER

PATENT REEL: 010771 FRAME: 0322

COMMONWEALTH/STATE OF WYGINGE :
COUNTY OF Montgonery :
Before me personally appeared \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\
Notary Public
SEAL.
My Commission Expires:
April 30, 2003

RECORDED: 04/20/2000

PATENT REEL: 010771 FRAME: 0323