

<b>PATENT ASSIGNMENT COVER SHEET</b>
--------------------------------------

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT3619032

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT

**CONVEYING PARTY DATA**

Name	Execution Date
INTERNATIONAL BUSINESS MACHINES CORPORATION	11/05/2015

**RECEIVING PARTY DATA**

<b>Name:</b>	INTERNATIONAL BUSINESS MACHINES CORPORATION
<b>Street Address:</b>	NEW ORCHARD ROAD
<b>City:</b>	ARMONK
<b>State/Country:</b>	NEW YORK
<b>Postal Code:</b>	10504
<b>Name:</b>	EGYPT NANOTECHNOLOGY CENTER (EGNC)
<b>Street Address:</b>	SMART VILLAGE, BUILDING 121
<b>Internal Address:</b>	CAIRO-ALEXANDRIA DESERT ROAD
<b>City:</b>	GIZA GOVERNORATE
<b>State/Country:</b>	EGYPT
<b>Postal Code:</b>	12577

**PROPERTY NUMBERS Total: 9**

Property Type	Number
Application Number:	13017671
Application Number:	13295511
Application Number:	14146138
Application Number:	13161081
Application Number:	13613041
Application Number:	13185860
Application Number:	14729984
Application Number:	14697250
Application Number:	13302576

**CORRESPONDENCE DATA**

Fax Number: (631)844-0081

*Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.*

Phone: 631-844-0080

PATENT

**Email:** elyssa@tb-iplaw.com  
**Correspondent Name:** TUTUNJIAN & BITETTO, P.C.  
**Address Line 1:** 425 BROADHOLLOW ROAD, SUITE 302  
**Address Line 4:** MELVILLE, NEW YORK 11747

<b>NAME OF SUBMITTER:</b>	JAMES J. BITETTO
---------------------------	------------------

<b>SIGNATURE:</b>	/jjb/
-------------------	-------

<b>DATE SIGNED:</b>	11/17/2015
---------------------	------------

**Total Attachments: 3**

source=JointAssignment#page1.tif

source=JointAssignment#page2.tif

source=JointAssignment#page3.tif

## PATENT ASSIGNMENT


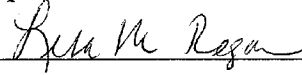
WHEREAS, International Business Machines Corporation, a New York corporation, located at Armonk, New York, United States of America (referred to as "IBM"), has ownership of the patents and patent applications in Exhibit A, all patents which may issue therefrom, and all divisionals, reissues, counterparts, substitutions, continuations, re-examinations and extensions thereof which may be pending in or granted in the United States and in all foreign countries and jurisdictions (referred to as the "Patent and Patent Applications");

WHEREAS, Egypt Nanotechnology Center (referred to as "EGNC"), a corporation organized and existing under the laws of the Country of Egypt, having a place of business at Smart Village, Building 121, Cairo-Alexandria Desert Road, Egypt 12577, desires to acquire with IBM the entire undivided right, title and interest as joint owners in said Patent and Patent Applications; and

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, IBM hereby transfers and assigns to IBM and EGNC as joint owners, and IBM and EGNC hereby accept from IBM as joint owners the transfer and assignment of the entire undivided right, title, and interest to the Patent and Patent Applications, and all rights of priority resulting from the filing of the Patent and Patent Applications subject to rights and licenses of third parties that attach as obligations of IBM. Such joint ownership is to be enjoyed by either owner, IBM or EGNC including the right to grant licenses and releases to others of any scope under the Patent and Patent Applications, without the requirement of consent of or notice or accounting to the other owner and without any other restriction of one owner over the other.

This transfer and assignment is effective as of the day upon which this Patent Assignment is signed by the second party to so sign, as indicated on the signature block.

IN WITNESS WHEREOF, the parties hereto have executed this Patent Assignment by its respective duly authorized officer in their respective corporate names.

<b>EGNC</b> By  Name: Ahmed Tantawy	<b>International Business Machines Corporation</b> By  Name: Lisa Regan
Title: Executive Director, Egypt Nanotechnology Center Date: October 30 <sup>th</sup> , 2015	Title: Director, Research and Intellectual Property Finance, IBM Corporation Date: 11/5/15

**EXHIBIT A**

## US Assigned Patents

<b>IBM Docket Number</b>	<b>Country</b>	<b>Patent Number</b>	<b>Application Number</b>	<b>Filing Date</b>	<b>Issue Date</b>
YOR920100123US2	US	8866003	13/599591	8/30/2012	10/21/2014
YOR920100590US1	US	8927857	13/036584	2/28/2011	1/6/2015
YOR920100643US1	US	8859321	13/017671	11/23/2010	10/14/2014
YOR920110490US1	US	9177688	13/301943	11/22/2011	11/3/2015
YOR920110572US1	US	9040340	13/295511	11/14/2011	5/26/2015
YOR920110767US2	US	9105805	14/146138	1/2/2014	8/11/2015
YOR920120893US2	US	8834967	13/966442	8/14/2013	9/16/2014

## Non-US Assigned Patents

<b>IBM Docket Number</b>	<b>Country</b>	<b>Patent Number</b>	<b>Application Number</b>	<b>Filing Date</b>	<b>Issue Date</b>
YOR920110187GB1	GB	2504430	1320003.5	6/15/2012	6/10/2015
YOR920110490DE1	DE	102012220314	102012220314.1	11/8/2012	5/22/2014
YOR920110490GB1	GB	2496956	1219636.6	11/1/2012	11/12/2013

## US Assigned Patent Applications

<b>IBM Docket Number</b>	<b>Country</b>	<b>Application Number</b>	<b>Filing Date</b>
YOR920110187US1	US	13/161081	6/15/2011
YOR920110187US2	US	13/613041	9/13/2012
YOR920110350US1	US	13/185860	7/19/2011
YOR920110350US2	US	14/729984	6/3/2015
YOR920110490US2	US	14/820039	8/6/2015
YOR920110490US3	US	14/820028	8/6/2015
YOR920110490US4	US	14/820011	8/6/2015
YOR920110572US2	US	14/697250	4/27/2015
YOR920110591US1	US	13/302576	11/22/2011
YOR920120893US1	US1	13/745170	1/18/2013

Non-US Assigned Patent Applications

<b>IBM Docket Number</b>	<b>Country</b>	<b>Application Number</b>	<b>Filing Date</b>
YOR920110187CN1	CN	201280026863.5	6/15/2012
YOR920110187DE1	DE	112012001857.5	6/15/2012
YOR920110591CN1	CN	201280057406.2	11/21/2012
YOR920110591DE2	DE	112012004849.0	11/21/2012
YOR920110591GB2	GB	1410516.7	11/21/2012
YOR920120893CN1	CN	201410022613.5	1/17/2014