

RECORDATION COVER SHEET  
FOR ASSIGNMENT OF PATENT

03-22-2002  
102028143

To the Hon. Commissioner of Patents and Trademarks:

Please record the enclosed copy of an assignment document. Relevant assignment data are as follows:

1. Assignors:

**CHARLES SANTORI**  
704 Campus Drive #36B, Stanford, CA 94305

**OLIVER BENSON**  
216 Bryant Street, Palo Alto, CA 94301

**YOSHIHISA YAMAMOTO**  
8 Ryan Court, Stanford, CA 94305

**MATTHEW PELTON**  
777 W. Middlefield Road, #139, Mountain View, CA 94041

**JUNGSANG KIM**  
46 Monarch Circle, Basking Ridge, NJ 07920

2. Assignee:

**Board of Trustees of the Leland Stanford Junior University**  
**The Office of Technology Licensing**  
900 Welch Road, Suite 350  
Palo Alto, CA 94304

**Japan Science and Technology Corporation**  
**Kawaguchi Center Building, 1-8, Honcho 4-chome**  
**Kawaguchi City, Saitama Pref. 332-0012**  
**Japan**

3. Execution Date of Assignment of Entire Interest in Patent Application: **June 20, 2001**

4. Execution Date of Declaration for Patent Application: **February 13, 2002**

4A. Patent Application No.: **09/780,679**

4B. Patent Number: **Not assigned**

5. Correspondence address: **Marek Alboszta**  
**LUMEN**  
45 Cabot Avenue, Suite 110  
Santa Clara, CA 95051

6. Total Number of applications and Patents involved: **1**

03/21/2002 LMUELLER 00000274 09780679

01 FC:581

40.00 OP

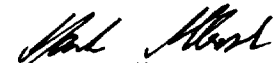
1

**PATENT**  
**REEL: 012690 FRAME: 0391**

7. Total fee (37 CFR 3.41): \$40

8. Statement and signature:

To the best of my knowledge and belief, the information contained herein is true and correct,  
and any attached copy is a true copy of the original document.



Marek Alboszta  
Reg. No. 39,894

Date: *1 March 2002*  
telephone: (408) 260-7300

Total number of pages including cover sheet, attachments, and document: **10**

**ASSIGNMENT**

THIS ASSIGNMENT, by

**CHARLES SANTORI, OLIVER BENSON, YOSHIHISA YAMAMOTO, MATTHEW PELTON  
& JUNGSANG KIM**

(hereinafter referred to as the Assignors), residing at **Stanford, California; Palo Alto, California; Stanford, California; Mountain View, California; and Basking Ridge, New Jersey** respectively, witnesseth:

WHEREAS, said Assignors have invented certain new and useful improvements in

**QUANTUM-DOT PHOTON TURNSTILE DEVICE** 69/180,679

for which application for Letters Patent has been executed on , ~~and is attached hereto~~ 6/26/01

WHEREAS,

**The Board of Trustees of the Leland Stanford Junior University**

**Japan Science and Technology Corporation**

(hereinafter referred to as the Assignees), a body having corporate powers under the laws of the state of **CALIFORNIA, STANFORD, CALIFORNIA 94305**, and a body having corporate powers under the laws of the country of **JAPAN, KAWAGUCHI CITY, SAITAMA PREF. 332-0012, JAPAN** are desirous of obtaining the entire right, title and interest in and to said inventions and said application for Letters Patent, and in and to any Letters Patent, United States or foreign, to be obtained therefor and thereon;

WHEREAS, said Assignors and said Assignees have executed an agreement entitled "Agreement Concerning Rights in Invention."

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) and for other good and sufficient considerations, the receipt of which is hereby acknowledged:

1. The Assignors have sold, assigned, transferred and set over, and do hereby sell, assign, transfer and set over unto said Assignees, the entire right, title and interest in, to and under said inventions; said application for Letters Patent; any Letters Patent which may be granted for said inventions in the United States of America and any foreign country; any division of said application, continuation of said application, and any continuation-in-part of said application which is subject to said agreement concerning rights in invention; any reissue or extension of said Letters Patent; and all rights under the International Convention for the Protection of Industrial Property; said right, title and interest to be held and enjoyed by said Assignee for its own use and behoove to the full end of the term for which Letters Patent may be granted, as fully and entirely as the same would have been held and enjoyed by the Assignors, had this sale and assignment not been made.

2. Said Assignors hereby jointly and severally warrant and represent that, at the time of execution and delivery of these presents, said Assignors are the joint and lawful owners of the entire right, title and interest in and to said inventions and said application for Letters Patent, and that the same have not entered into any assignment, contract or understanding in conflict herewith.

3. Said Assignors hereby jointly and severally covenant and agrees to assist and cooperate with said Assignees, whereby said Assignees may enjoy to the fullest extent said right, title and interest herein conveyed, provided, however, that the entire expense which may be incurred by said Assignors in lending such assistance and cooperation be paid by Assignees. Such cooperation shall include: (a) prompt execution of all papers (prepared at the expense of Assignees) which are deemed necessary or desirable by Assignees to perfect said right, title and interest herein conveyed, (b) prompt execution of all petitions, oaths, specifications, declarations and other papers (prepared at the expense of Assignees) which are deemed necessary or desirable by Assignees for filing or prosecuting in the United States or any foreign country said application, any application which is a division of said application, continuation of said application, or any continuation-in-part of said


application which is subject to said agreement concerning rights in invention, any reissue application for any Letters Patent granted on said application, or for any interference proceeding involving said application or Letters Patent granted thereon; and (c) prompt assistance and cooperation in the prosecution of all legal proceedings involving said inventions, said application, or Letters Patent granted thereon, including oppositions, cancellation proceedings, priority contests, public use proceedings and court actions.

4. The terms, covenants and conditions of this Assignment shall inure to the benefit of said Assignees, its successors, assigns and/or other legal representatives, and shall be binding upon said Assignors, their heirs, legal representatives and assigns.

5. The terms, covenants and conditions of this Assignment are subject to the payment of royalty by Assignees to Assignors in accordance with the provisions of said Agreement Concerning Rights in Invention.

6. Said Assignors hereby request the Commissioner of Patents and Trademarks to issue said Letters Patent of the United States to said Assignees as the Assignees of said inventions.

IN WITNESS WHEREOF said Assignors have executed and delivered this instrument on the respective dates noted below.

|   |  |
|---|--|
| Date: <u>1/25/02</u>  | <u>Charles Santori</u><br><b>CHARLES SANTORI</b> |
| State: <u>California</u> County: <u>Santa Clara</u>                                 |  |
| Subscribed and sworn to before me on this <u>25</u> day of <u>01</u> , 20 <u>02</u> |  |
|   | <u>Patricia Lucatero</u><br>Notary Public        |

PL  
1/25/02

|  |       |                      |
|--|-------|----------------------|
| Date: _____  | _____ | <b>OLIVER BENSON</b> |
| State: _____ County: _____   |       |                      |
| Subscribed and sworn to before me on this _____ day of _____, 20____ |       |                      |
| _____<br>Notary Public   |       |                      |

Date: 1/25/02 Yoshihisa Yamamoto  
YOSHIHISA YAMAMOTO

State: California County: Santa Clara

Subscribed and sworn to before me on this 25 day of 01, 2002

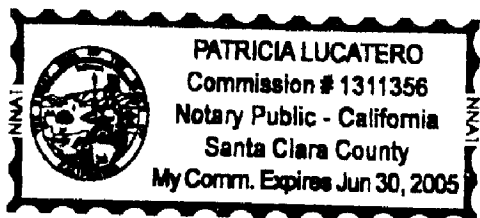


Patricia Lucatero  
Notary Public

Date: 1/25/02 Matthew Pelton  
MATTHEW PELTON

State: California County: Santa Clara

Subscribed and sworn to before me on this 25 day of 01, 2002



Patricia Lucatero  
Notary Public

Date: \_\_\_\_\_  
JUNGSANG KIM

State: \_\_\_\_\_ County: \_\_\_\_\_

Subscribed and sworn to before me on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

Notary Public

**ASSIGNMENT**

THIS ASSIGNMENT, by

**CHARLES SANTORI, OLIVER BENSON, YOSHIHISA YAMAMOTO, MATTHEW PELTON  
& JUNGSANG KIM**

(hereinafter referred to as the Assignors), residing at **Stanford, California; Palo Alto, California; Stanford, California; Mountain View, California; and Basking Ridge, New Jersey** respectively, witnesseth:

WHEREAS, said Assignors have invented certain new and useful improvements in

**QUANTUM-DOT PHOTON TURNSTILE DEVICE** 09/780,679

for which application for Letters Patent has been executed on ~~, and is attached hereto~~ 6/20/01

WHEREAS,

**The Board of Trustees of the Leland Stanford Junior University**

**Japan Science and Technology Corporation**

(hereinafter referred to as the Assignees), a body having corporate powers under the laws of the state of **CALIFORNIA, STANFORD, CALIFORNIA 94305**, and a body having corporate powers under the laws of the country of **JAPAN, KAWAGUCHI CITY, SAITAMA PREF. 332-0012, JAPAN** are desirous of obtaining the entire right, title and interest in and to said inventions and said application for Letters Patent, and in and to any Letters Patent, United States or foreign, to be obtained therefor and thereon;

WHEREAS, said Assignors and said Assignees have executed an agreement entitled "Agreement Concerning Rights in Invention."

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) and for other good and sufficient considerations, the receipt of which is hereby acknowledged:

1. The Assignors have sold, assigned, transferred and set over, and do hereby sell, assign, transfer and set over unto said Assignees, the entire right, title and interest in, to and under said inventions; said application for Letters Patent; any Letters Patent which may be granted for said inventions in the United States of America and any foreign country; any division of said application, continuation of said application, and any continuation-in-part of said application which is subject to said agreement concerning rights in invention; any reissue or extension of said Letters Patent; and all rights under the International Convention for the Protection of Industrial Property; said right, title and interest to be held and enjoyed by said Assignee for its own use and behoove to the full end of the term for which Letters Patent may be granted, as fully and entirely as the same would have been held and enjoyed by the Assignors, had this sale and assignment not been made.

2. Said Assignors hereby jointly and severally warrant and represent that, at the time of execution and delivery of these presents, said Assignors are the joint and lawful owners of the entire right, title and interest in and to said inventions and said application for Letters Patent, and that the same have not entered into any assignment, contract or understanding in conflict herewith.

3. Said Assignors hereby jointly and severally covenant and agrees to assist and cooperate with said Assignees, whereby said Assignees may enjoy to the fullest extent said right, title and interest herein conveyed, provided, however, that the entire expense which may be incurred by said Assignors in lending such assistance and cooperation be paid by Assignees. Such cooperation shall include: (a) prompt execution of all papers (prepared at the expense of Assignees) which are deemed necessary or desirable by Assignees to perfect said right, title and interest herein conveyed, (b) prompt execution of all petitions, oaths, specifications, declarations and other papers (prepared at the expense of Assignees) which are deemed necessary or desirable by Assignees for filing or prosecuting in the United States or any foreign country said application.

any application which is a division of said application, continuation of said application, or any continuation-in-part of said application which is subject to said agreement concerning rights in invention, any reissue application for any Letters Patent granted on said application, or for any interference proceeding involving said application or Letters Patent granted thereon; and (c) prompt assistance and cooperation in the prosecution of all legal proceedings involving said inventions, said application, or Letters Patent granted thereon, including oppositions, cancellation proceedings, priority contests, public use proceedings and court actions.

4. The terms, covenants and conditions of this Assignment shall inure to the benefit of said Assignees, its successors, assigns and/or other legal representatives, and shall be binding upon said Assignors, their heirs, legal representatives and assigns.

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IN WITNESS WHEREOF said Assignors have executed and delivered this instrument on the respective dates noted below.

|  |               |
|--|---------------|
| Date: _____  | _____         |
| <b>CHARLES SANTORI</b>   |               |
| State: _____   | County: _____ |
| Subscribed and sworn to before me on this _____ day of _____, 20____ |               |
| _____  |               |
| Notary Public  |               |

|  |               |
|--|---------------|
| Date: _____  | _____         |
| <b>OLIVER BENSON</b>   |               |
| State: _____   | County: _____ |
| Subscribed and sworn to before me on this _____ day of _____, 20____ |               |
| _____  |               |
| Notary Public  |               |



Date: \_\_\_\_\_

**YOSHIHISA YAMAMOTO**

State: \_\_\_\_\_ County: \_\_\_\_\_

Subscribed and sworn to before me on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

\_\_\_\_\_  
Notary Public

Date: \_\_\_\_\_

**MATTHEW PELTON**

State: \_\_\_\_\_ County: \_\_\_\_\_

Subscribed and sworn to before me on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

\_\_\_\_\_  
Notary Public

Date: 2/11/2002

Jungsang Kim  
JUNGSANG KIM

State: New Jersey County: Union

Subscribed and sworn to before me on this 11<sup>th</sup> day of February, 2002

Frances J. Levine  
Notary Public

FRANCES J. LEVINE  
Notary Public of New Jersey, USA  
Registered in Middlesex County  
My Commission Expires July 30, 2003

**ASSIGNMENT**

THIS ASSIGNMENT, by

**CHARLES SANTORI, OLIVER BENSON, YOSHIHISA YAMAMOTO, MATTHEW PELTON  
& JUNGSANG KIM**

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for which application for Letters Patent has been executed on ~~, and is attached hereto~~ 6/20/01

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2. Said Assignors hereby jointly and severally warrant and represent that, at the time of execution and delivery of these presents, said Assignors are the joint and lawful owners of the entire right, title and interest in and to said inventions and said application for Letters Patent, and that the same have not entered into any assignment, contract or understanding in conflict herewith.
3. Said Assignors hereby jointly and severally covenant and agrees to assist and cooperate with said Assignees, whereby said Assignees may enjoy to the fullest extent said right, title and interest herein conveyed, provided, however, that the entire expense which may be incurred by said Assignors in lending such assistance and cooperation be paid by Assignees. Such cooperation shall include: (a) prompt execution of all papers (prepared at the expense of Assignees) which are deemed necessary or desirable by Assignees to perfect said right, title and interest herein conveyed, (b) prompt execution of all petitions, oaths, specifications, declarations and other papers (prepared at the expense of Assignees) which are deemed necessary or desirable by Assignees for filing or prosecuting in the United States or any foreign country said application, any application which is a division of said application, continuation of said application, or any continuation-in-part of said

Assignment, Page 1 of 34

application which is subject to said agreement concerning rights in invention, any reissue application for any Letters Patent granted on said application, or for any interference proceeding involving said application or Letters Patent granted thereon; and (c) prompt assistance and cooperation in the prosecution of all legal proceedings involving said inventions, said application, or Letters Patent granted thereon, including oppositions, cancellation proceedings, priority contests, public use proceedings and court actions.

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IN WITNESS WHEREOF said Assignors have executed and delivered this instrument on the respective dates noted below.

Date: \_\_\_\_\_

**CHARLES SANTORI**

State: \_\_\_\_\_ County: \_\_\_\_\_

Subscribed and sworn to before me on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

\_\_\_\_\_  
Notary Public

Date: 2/13/02

  
**OLIVER BENSON**

State: Germany County: \_\_\_\_\_

Subscribed and sworn to before me on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

N.A.  
Notary Public

Date: \_\_\_\_\_

**YOSHIHISA YAMAMOTO**

State: \_\_\_\_\_ County: \_\_\_\_\_

Subscribed and sworn to before me on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

\_\_\_\_\_  
Notary Public

Date: \_\_\_\_\_

**MATTHEW PELTON**

State: \_\_\_\_\_ County: \_\_\_\_\_

Subscribed and sworn to before me on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

\_\_\_\_\_  
Notary Public

Date: \_\_\_\_\_

**JUNGSANG KIM**

State: \_\_\_\_\_ County: \_\_\_\_\_

Subscribed and sworn to before me on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

\_\_\_\_\_  
Notary Public