

08-02-2001

U.S. DEPARTMENT OF COMMERCE  
Patent and Trademark Office

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101796223

To the Honorable Commissioner of Patent

original documents or copy thereof

<p>1. Name of conveying party(ies): (1) Ryan C. Hayward; (2) Hak F. Poon; (3) Dudley A. Saville; (4) Ilhan Aksay <i>7-300)</i></p> <p>Additional name(s) of conveying party(ies) attached? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p> <p>3. Nature of Conveyance:  <input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger  <input type="checkbox"/> Security Agreement <input type="checkbox"/> Change of Name  <input type="checkbox"/> Correction of Assignment Recordation          (previously recorded at Reel , Frame ).  <input type="checkbox"/> Other</p> <p>Execution Date: (1) <u>April 24, 2001</u>, (2), (3) &amp; (4) <u>April 25, 2001</u></p>	<p>2. Name and address of receiving party(ies):          Name: Princeton University          Internal Address:          Street Address:          City: Princeton, State: NJ ZIP:08544-0036          Additional name(s) &amp; address(es) attached? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>
<p>4. Application number(s) or patent number(s):          If this document is being filed together with a new application, the execution date of the application is:          A. Patent Application Number(s) 09/843,509 B. Patent Number(s)</p> <p>Additional number(s) attached? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>	
<p>5. Name and address of party to whom correspondence concerning document should be mailed:          Name: Steven E. Bach</p> <p>Internal Address: <u>Ratner &amp; Prestia</u></p> <p>Street Address: <u>Suite 301, One Westlakes, Berwyn,</u>  <u>P.O. Box 980</u>          City: <u>Valley Forge</u> State: <u>PA</u> ZIP: <u>19482-0980</u></p>	<p>6. Total number of applications and patents involved: 01</p> <p>7. Total fee (37 CFR 3.41): \$ 40.00  <input checked="" type="checkbox"/> Enclosed  <input type="checkbox"/> Authorized to be charged to deposit account</p> <p>8. Deposit account number: <b>18-0350</b>          (Attach duplicate copy of this page if paying by deposit account.)</p>

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9. 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.*

Steven E. Bach *[Signature]* 7/27/01  
 Name of Person Signing Signature Date  
 46,530  
 Registration. No.

Total number of pages including cover sheet, attachments, and document: 8

OMB No. 0651-0011 (exp. 4/94)

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Mail documents to be recorded with required cover sheet information to:

Commissioner of Patents and Trademarks  
Box Assignments  
Washington, D.C. 20231

06/02/2001 TDIAZ1 00000071 09843509

01 FC:581

40.00 OP

**ASSIGNMENT**

Whereas, we the undersigned, being citizens of the United States residing as stated below, have invented a technology entitled, ELECTROHYDRODYNAMICALLY PATTERNED COLLOIDAL CRYSTAL

X for which an Application for United States Letters Patent has been executed by me on 4/24/01.

AND WHEREAS, Princeton University having a principle place of business in Princeton, New Jersey, as assignee, is desirous of acquiring all right, title and interest in and to said invention and Letters Patent that may be granted therefor.

NOW THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, I (we) as assignor(s) hereby sell, assign and set over to said assignee the entire right, title and interest for the United States of America and all other countries in and to said invention and the aforesaid application for Letters Patent, all original, divisional, continuation, substitute or reissue applications and patents applied for or granted therefor in the United States of America and all other countries, 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 our legal representatives, heirs and assigns do hereby agree and covenant without further remuneration, to execute and deliver all divisional, continuation, reissue 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 borne and paid by said assignee.

First inventor: Ryan Hayward Residing at: 1227 Quinientos St. Apt. A Santa Barbara, CA  
Executed application on: 4/24/01 Date 4/24/01 signature [Signature]  
date date

STATE OF NEW JERSEY:

:SS:

COUNTY OF MERCER:

On this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_, before me personally came the above named \_\_\_\_\_ to me personally known as the individual(s) who executed the foregoing instrument, who acknowledged to me that the same was executed by him of his free will for the purposes therein set forth.

**California Notarial  
Loose Certificate  
attached**

Notary Public

(seal)

Second inventor: \_\_\_\_\_ Residing at: \_\_\_\_\_

Executed application on: \_\_\_\_\_ Date \_\_\_\_\_ signature \_\_\_\_\_  
date date

STATE OF NEW JERSEY:

**CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT**

State of California

County of Santa Barbara

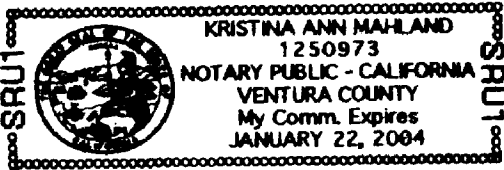
} ss.

On 4-24-01, before me, Kristina Ann Mahland, Notary Public,  
Date Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared Ryan Christopher Hayward  
Name(s) of Signer(s)

- personally known to me
- proved to me on the basis of satisfactory evidence

to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



Place Notary Seal Above

WITNESS my hand and official seal.  
*[Signature]*  
Signature of Notary Public

**OPTIONAL**

*Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.*

**Description of Attached Document**

Title or Type of Document: Assignment

Document Date: 4-24-01 Number of Pages: 1pg

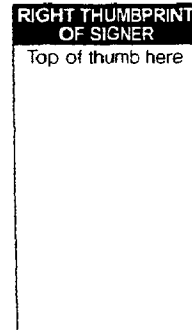
Signer(s) Other Than Named Above: \_\_\_\_\_

**Capacity(ies) Claimed by Signer**

Signer's Name: \_\_\_\_\_

- Individual
- Corporate Officer — Title(s): \_\_\_\_\_
- Partner —  Limited  General
- Attorney in Fact
- Trustee
- Guardian or Conservator \_\_\_\_\_
- Other: \_\_\_\_\_

Signer Is Representing: \_\_\_\_\_



:SS:

COUNTY OF MERCER:

On this \_\_\_\_ day of \_\_\_\_\_, 19\_\_, before me personally came the above named \_\_\_\_\_ to me personally known as the individual(s) who executed the foregoing instrument, who acknowledged to me that the same was executed by him of his free will for the purposes therein set forth.

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

(seal)

Third inventor: \_\_\_\_\_ Residing at: \_\_\_\_\_

Executed application on: \_\_\_\_\_  
date Date signature

STATE OF NEW JERSEY:

:SS:

COUNTY OF MERCER:

On this \_\_\_\_ day of \_\_\_\_\_, 19\_\_, before me personally came the above named \_\_\_\_\_ to me personally known as the individual(s) who executed the foregoing instrument, who acknowledged to me that the same was executed by him of his free will for the purposes therein set forth.

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

(seal)

Fourth inventor: \_\_\_\_\_ Residing at: \_\_\_\_\_

Executed application on: \_\_\_\_\_  
date Date signature

STATE OF NEW JERSEY:

:SS:

COUNTY OF MERCER:

On this \_\_\_\_ day of \_\_\_\_\_, 19\_\_, before me personally came the above named \_\_\_\_\_ to me personally known as the individual(s) who executed the foregoing instrument, who acknowledged to me that the same was executed by him of his free will for the purposes therein set forth.

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

(seal)

Fifth inventor: \_\_\_\_\_

Residing at: \_\_\_\_\_

Executed application on: \_\_\_\_\_  
date

\_\_\_\_\_ Date

\_\_\_\_\_ signature

STATE OF NEW JERSEY:

:SS:

COUNTY OF MERCER:

On this \_\_\_\_ day of \_\_\_\_\_, 19\_\_, before me personally came the above named \_\_\_\_\_ to me personally known as the individual(s) who executed the foregoing instrument, who acknowledged to me that the same was executed by him of his free will for the purposes therein set forth.

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

(seal)

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X  for which an Application for United States Letters Patent has been executed by me on \_\_\_\_\_.

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First inventor: \_\_\_\_\_ Residing at: \_\_\_\_\_

Executed application on: \_\_\_\_\_  
date Date signature

STATE OF NEW JERSEY:  
:SS:  
COUNTY OF MERCER:

On this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, before me personally came the above named \_\_\_\_\_ to me personally known as the individual(s) who executed the foregoing instrument, who acknowledged to me that the same was executed by him of his free will for the purposes therein set forth.

\_\_\_\_\_  
Notary Public  
(seal)

Second inventor: Hak F. Poon

Residing at: \_\_\_\_\_

Executed application on: \_\_\_\_\_

date 4-25-2001 Date [Signature] signature

STATE OF NEW JERSEY:  
:SS:  
COUNTY OF MERCER:

On this 25 day of April, 192001, before me personally came the above named \_\_\_\_\_ to me personally known as the individual(s) who executed the foregoing instrument, who acknowledged to me that the same was executed by him of his free will for the purposes therein set forth.

[Signature]  
Notary Public  
(seal)

**JOSEPH X. MONTEMARANO**  
**NOTARY PUBLIC OF NEW JERSEY**  
**Commission Expires 11/3/2005**

Third inventor: \_\_\_\_\_

Residing at: \_\_\_\_\_

Executed application on: \_\_\_\_\_

date \_\_\_\_\_ Date \_\_\_\_\_ signature \_\_\_\_\_

STATE OF NEW JERSEY:  
:SS:  
COUNTY OF MERCER:

On this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, before me personally came the above named \_\_\_\_\_ to me personally known as the individual(s) who executed the foregoing instrument, who acknowledged to me that the same was executed by him of his free will for the purposes therein set forth.

\_\_\_\_\_  
Notary Public  
(seal)

Fourth inventor: Dudley A. Smilk

Residing at: \_\_\_\_\_

Executed application on: \_\_\_\_\_

date

April 25, 2001  
Date

Dudley A. Smilk  
signature

STATE OF NEW JERSEY:

:SS:

COUNTY OF MERCER:

On this 25<sup>th</sup> day of April, 2001, before me personally came the above named \_\_\_\_\_ to me personally known as the individual(s) who executed the foregoing instrument, who acknowledged to me that the same was executed by him of his free will for the purposes therein set forth.

[Signature]  
Notary Public  
(seal)

**JOSEPH X. MONTEMARANO**  
**NOTARY PUBLIC OF NEW JERSEY**  
**Commission Expires 11/3/2005**

Fifth inventor: Ishan A. Aksay

Residing at: \_\_\_\_\_

Executed application on: \_\_\_\_\_

date

APRIL 25, 2001  
Date

[Signature]  
signature

STATE OF NEW JERSEY:

:SS:

COUNTY OF MERCER:

On this 25<sup>th</sup> day of April, 2001, before me personally came the above named \_\_\_\_\_ to me personally known as the individual(s) who executed the foregoing instrument, who acknowledged to me that the same was executed by him of his free will for the purposes therein set forth.

[Signature]  
Notary Public  
(seal)

**JOSEPH X. MONTEMARANO**  
**NOTARY PUBLIC OF NEW JERSEY**  
**Commission Expires 11/3/2005**