OTOFAN	Docket No.: 01640545AA
FORM PTO-1598 (Modified) (Rev. 03-01) OMB No. 0651-0027 (exp.5/31/2002) APR 20 2006 B 04-2	5-2006 T U.S. DEPARTMENT OF COMMERC
OMB No. 0651-0027 (exp.5/31/2002)	
Tab settings	225759
To the Director of the United States Pate. 103. 1. Name of conveying party(ies):	<ul> <li>2. Name and address of receiving party(ies);</li> </ul>
Ming Xu	2. Name and address of receiving party(les).
Yan Dong Fred C. Lee	Name: Virginia Polytechnic Institute & State University
	Internal Address:
Additional names(s) of conveying party(ies)	
3. Nature of conveyance:	
S Assignment G Merger	Street Address:
Security Agreement Change of Name	
□ Other	City: Blacksburg State: VA ZIP: 2406
Execution Date: 3/15/06; 3/15/06; 3/15/06	
	Additional name(s) & address(es) attached?  Yes X No
<ol><li>Application number(s) or patent numbers(s):</li></ol>	
If this document is being filed together with a new applicati	on, the execution date of the application is:
A. Patent Application No.(s)	B. Patent No.(s)
SN 11/343,204 Filed: 1/31/06	
SN 11/343,204 Filed: 1/31/06 Additional numbers at 5. Name and address of party to whom correspondence	
SN 11/343,204 Filed: 1/31/06 Additional numbers at 5. Name and address of party to whom correspondence concerning document should be mailed:	tached?
SN 11/343,204 Filed: 1/31/06 Additional numbers at 5. Name and address of party to whom correspondence	tached?
SN 11/343,204 Filed: 1/31/06 Additional numbers at 5. Name and address of party to whom correspondence concerning document should be mailed:	tached? Yes No   6. Total number of applications and patents involved: 1   7. Total fee (37 CFR 3.41): 40.00   Enclosed - Any excess or insufficiency should be
SN 11/343,204 Filed: 1/31/06 Additional numbers at 5. Name and address of party to whom correspondence concerning document should be mailed: Name: Michael E. Whitham	tached? Yes No   6. Total number of applications and patents involved: 1   7. Total fee (37 CFR 3.41):\$ 40.00
SN 11/343,204 Filed: 1/31/06 Additional numbers at Additional numbers at S. Name and address of party to whom correspondence concerning document should be mailed: Name: Michael E. Whitham Internal Address:	tached? Yes No   6. Total number of applications and patents involved: 1   7. Total fee (37 CFR 3.41): 40.00   Enclosed - Any excess or insufficiency should be
SN 11/343,204 Filed: 1/31/06 Additional numbers at Additional numbers at S. Name and address of party to whom correspondence concerning document should be mailed: Name: Michael E. Whitham Internal Address:	tached? Yes No   6. Total number of applications and patents involved: 1   7. Total fee (37 CFR 3.41):\$ 40.00   Enclosed - Any excess or insufficiency should be credited or debited to deposit account
SN 11/343,204 Filed: 1/31/06 Additional numbers at Additional numbers at S. Name and address of party to whom correspondence concerning document should be mailed: Name: Michael E. Whitham Internal Address: Whitham, Curtis, Christofferson & Cook, PC	tached?       Yes       No         6. Total number of applications and patents involved:       1         7. Total fee (37 CFR 3.41):\$ 40.00       I         Enclosed - Any excess or insufficiency should be credited or debited to deposit account       I         Authorized to be charged to deposit account       I
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SN 11/343,204       Filed: 1/31/06         Additional numbers at         5. Name and address of party to whom correspondence concerning document should be mailed:         Name:       Michael E. Whitham         Internal Address:         Whitham, Curtis, Christofferson & Cook, PC         Street Address:         City:       Reston         State:       VA         ZIP:       20190	tached?       Yes       No         6. Total number of applications and patents involved:       1         7. Total fee (37 CFR 3.41):\$ 40.00       1         Ø       Enclosed - Any excess or insufficiency should be credited or debited to deposit account         Ø       Authorized to be charged to deposit account         8. Deposit account number:       50-2041         (Attach duplicate copy of this page if paying by deposit account)
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SN 11/343,204       Filed: 1/31/06         Additional numbers at         5. Name and address of party to whom correspondence concerning document should be mailed:         Name:       Michael E. Whitham         Internal Address:         Whitham, Curtis, Christofferson & Cook, PC         Street Address:       11491 Sunset Hills Road - #340         City:       Reston         State:       VA         ZIP:       20190         Do No         9. Statement and signature.       To the best of my knowledge and belief, the foregoing information	tached?       Yes       Yes       No         6. Total number of applications and patents involved:       1         7. Total fee (37 CFR 3.41):\$ 40.00       1         Ø       Enclosed - Any excess or insufficiency should be credited or debited to deposit account         Ø       Authorized to be charged to deposit account         8. Deposit account number:       50-2041         (Attach duplicate copy of this page if paying by deposit account)       1         DT USE THIS SPACE       7         Imation is true and correct and any attached copy is a true copy
SN 11/343,204       Filed: 1/31/06         Additional numbers at         5. Name and address of party to whom correspondence concerning document should be mailed:         Name:       Michael E. Whitham         Internal Address:         Whitham, Curtis, Christofferson & Cook, PC         Street Address:       11491 Sunset Hills Road - #340         City:       Reston         Statement and signature.         To the best of my knowledge and belief, the foregoing infor of the original document.	tached?       Yes       Yes       No         6. Total number of applications and patents involved:       1         7. Total fee (37 CFR 3.41):\$ 40.00       1         Ø       Enclosed - Any excess or insufficiency should be credited or debited to deposit account       1         Ø       Authorized to be charged to deposit account       1         8. Deposit account number:       1         50-2041       1         Ø       (Attach duplicate copy of this page if paying by deposit account)         OT USE THIS SPACE       1
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REEL: 017827 FRAME: 0169

Docket No.: 016400545AA

## ASSIGNMENT

WHEREAS, Ming Xu, Yan Dong and Fred C. Lee, all of Blacksburg, Virginia, (hereinafter referred to as ASSIGNORS), have invented certain new and useful improvements in an invention entitled:

## MULTIPHASE VOLTAGE REGULATOR HAVING COUPLED INDUCTORS WITH REDUCED WINDING RESISTANCE

for which an application for United States Letters Patent has been filed on January 31, 2006 and accorded serial number 11/343,204: and

WHEREAS, Virginia Polytechnic Institute & State University, (hereinafter referred to as ASSIGNEE), an institute of higher education organized under the laws of the Commonwealth of Virginia, having an office and principal place of business at Blacksburg, Virginia, is desirous of acquiring the entire right, title and interest in, to and under said application and said invention and in, to and under Letters Patent or similar legal protection to be obtained therefor in the United States and in any and all foreign countries.

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN: Be it known that in consideration of the payment by ASSIGNEE to ASSIGNORS of the sum of One Dollar (\$1.00), the receipt and sufficiency of which is hereby acknowledged, and for other good and valuable consideration, ASSIGNORS hereby sell, assign and transfer to ASSIGNEE, its lawful successors and assigns, the full and exclusive right, title and interest to said invention in the United States and its territorial possessions and in all foreign countries and to all Letters Patent or similar legal protection in the United States and its territorial possessions and in any and all foreign countries to be obtained for said invention by said application or any continuation, division, continuation-in-part, reexamination, renewal, substitute, extension or reissue thereof or any legal equivalent thereof in a foreign country for the full term or terms for which the same may be granted; and authorize and request the Commissioner of Patents of the United States and any official of any foreign country whose duty it is to issue patents or legal equivalents thereto, to issue same for this invention to ASSIGNEE, its lawful successors and assigns.

ASSIGNORS hereby covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment and sale.

ASSIGNORS further covenant that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said application, said invention and said Letters Patent and legal equivalents in foreign countries as may be known and accessible to ASSIGNORS and will testify as to the same in any interference or litigation related thereto and will promptly execute and deliver to ASSIGNEE or its legal representative any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof in any foreign country which may be necessary or desirable to carry out the purposes thereof.

> PATENT REEL: 017827 FRAME: 0170

Docket No.: 016400545AA Page 2

IN WITNESS WHEREOF, ASSIGNOR has caused the hand of its proper office to be subscribed hereto this <u>5</u> day of <u>MACH</u>, 2006.

Witnessed by:

1erisacThan

Ming Xu

IN WITNESS WHEREOF, ASSIGNOR has caused the hand of its proper office to be subscribed hereto this  $\frac{5^{12}}{10^{12}}$  day of  $\frac{MARCH}{10^{12}}$ , 2006.

Witnessed by:

Terisachan

IN WITNESS WHEREOF, ASSIGNOR has caused the hand of its proper office to be subscribed hereto this <u>15</u> day of <u>March</u>, 2006.

Witnessed by:

erisal than

**RECORDED: 04/20/2006**