PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SONY VARGHESE	04/14/2021
FRED FISHBURN	04/15/2021

RECEIVING PARTY DATA

Name:	APPLIED MATERIALS, INC.	
Street Address:	3050 BOWERS AVENUE	
City:	SANTA CLARA	
State/Country:	CALIFORNIA	
Postal Code:	95054	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	17829939

CORRESPONDENCE DATA

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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.

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ATTORNEY DOCKET NUMBER:	44019449C
NAME OF SUBMITTER:	JULIANNE HOLLAND
SIGNATURE:	/Julianne Holland/
DATE SIGNED:	06/01/2022

Total Attachments: 3

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PATENT 507313356 REEL: 060074 FRAME: 0557

ASSIGNMENT

WHEREAS, the undersigned, to wit:

Sony Varghese Fred Fishburn

(Hereinafter collectively **ASSIGNOR**), have/has made a certain new and useful invention as set forth in an application for United States Letters Patent, entitled:

CMOS OVER ARRAY OF 3-D DRAM DEVICE

(X on	nly one):
(A)	which was executed concurrently herewith and is being filed herewith in the United States Patent and Trademark Office;
(B)	which was executed on, 20, and is being filed herewith in the United
(C)	States Patent and Trademark Office; Which was filed as US Patent Application No. 17/230,591, filed on April 14, 2021

AND WHEREAS, Applied Materials, Inc., (hereinafter **ASSIGNEE**), a corporation organized and existing under the laws of the state of Delaware, and having its principal place of business at 3050 Bowers Avenue, Santa Clara, California, 95054, is desirous of acquiring the entire right, title, and interest in and to said invention and any and all patents that may be obtained therefore, and in and to said application and any and all patents that may issue therefrom;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, **ASSIGNOR** does hereby sell, assign, transfer, and set over unto said **ASSIGNEE**, its successors, assigns, and legal representatives, all right, title, and interest in and to said invention throughout the world, and any and all patents of the United States and foreign countries that may be obtained therefor, and in and to said application, including any and all continuations, continuations-in-part, divisionals, reissues, re-examinations, substitutions, and extensions thereof, and any and all patents of the United States and foreign countries that may issue therefrom, such right, title, and interest including the right to file applications and obtain patents, utility models, industrial models and designs for said invention in the name of said **ASSIGNEE**, its successors, assigns, and legal representatives throughout the world, including all rights of priority, all rights to publish cautionary notices reserving ownership of said invention, and all rights to register said invention in appropriate registries;

ASSIGNOR also does hereby covenant that it has the full right to convey the entire right, title, and interest herein assigned, and that it has not and will not execute any agreement in conflict herewith:

ASSIGNOR also does hereby authorize and request the Commissioner of Patents and Trademarks to issue any and all Letters Patent of the United States on said invention or resulting from said application, including any continuations, continuations-in-part, divisions, reissues, reexaminations, substitutions, and extensions thereof, to said **ASSIGNEE**, its successors, assigns, and legal representatives as the **ASSIGNEE** of the entire right, title, and interest herein assigned;

PATENT REEL: 060074 FRAME: 0558 **ASSIGNOR** also does hereby agree to, at any time, upon request, without further or additional consideration, but at the expense of said **ASSIGNEE**, its successors, assigns, or legal representatives, execute and deliver any and all papers, make all rightful oaths, and do all lawful acts that may be necessary or desirable to perfect the entire right, title, and interest here assigned in said **ASSIGNEE**, its successors, assigns, and legal representatives, and generally do everything possible to vest the entire right, title and interest herein assigned in said **ASSIGNEE**, its successors, assigns, and legal representatives;

ASSIGNOR also does hereby agree to, at any time, upon request, without further or additional consideration, but at the expense of said **ASSIGNEE**, its successors, assigns, or legal representatives, execute and deliver any and all papers, make all rightful oaths, and do all lawful acts that may be necessary or desirable to make application for and obtain any and all continuations, continuations-in-part, divisions, reissues, re-examinations, substitutions, and extensions of said application, or any application on said invention, or any patent issuing therefor or therefrom:

ASSIGNOR also does hereby agree to, at any time, upon request, without further or additional consideration but at the expense of said **ASSIGNEE**, its successors, assigns, and legal representatives, communicate to said **ASSIGNEE**, its successors, assigns, and legal representatives, any known facts relating to said invention or said application or any patent issuing therefor or therefrom, and testify as to the same in any interference or other litigation proceeding when requested to do so, and aid said **ASSIGNEE**, its successors, assigns, and legal representatives, in obtaining and enforcing property protection for said invention in all countries;

ASSIGNOR also does hereby grant the Legal Department of Applied Materials, Inc., at the address shown above, the power to insert on this assignment any further information, including, but not limited to application number(s) and filing date(s), which may be necessary or desirable in order to comply with any rule or request of the United States Patent and Trademark Office for the purposes of recording this document.

ASSIGNOR also does now hereby execute this document on the date(s) indicated below:

4/14/2021	Sony Varguese	
Date	Name: Sony Varghese	
4/15/2021	Fred Fishburn	
 Date	Name: Fred Fishburn	

Assignment Document Return Address:

KACVINSKY DAISAK BLUNI PLLC 101 Carnegie Center, Suite 106 Princeton, NJ 08540

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PATENT REEL: 060074 FRAME: 0560