PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JOHN P. DAVID	02/03/2016

RECEIVING PARTY DATA

Name:	THE UNIVERSITY OF SHEFFIELD	
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PROPERTY NUMBERS Total: 2

Property Type	Number
Application Number:	61456455
Application Number:	13289645

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DATE SIGNED:	02/19/2016

Total Attachments: 3

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PATENT 503699691 REEL: 037772 FRAME: 0508

RECORDATION FORM COVER SHEET PATENTS ONLY

Atty Ref/Docket No.: 1863.098PRV, 1863.098US1 Patent and Trademark Office To the Director of the U.S. Patent and Trademark Office: Please record the attached original documents or copy thereof. 1. Name of conveying party(ies): 2. Name and address of receiving party(ies): John P. David Name: The University of Sheffield Additional name(s) of conveying party(ies) attached? Street Address: Firth Court Western Bank []Yes [X]No City: Sheffield, South Yorkshire, S10 2TN 3. Nature of conveyance: Country: <u>United Kingdom</u> Additional name(s) & address(es) attached? []Yes [X]No [X] Assignment [] Merger [] Security Agreement [] Change of Name [] Other Execution Date: February 3, 2016 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 No.(s) B. Patent No.(s) Serial No. 61/456,455 Serial No. 13/289,645 Additional numbers attached? []Yes [X]No 6. Total number of applications and patents involved: 2 5. Name and address of party to whom correspondence concerning document should be mailed: 7. Total fee (37 CFR 3.41):\$ 0.00 Name: David R. Cochran [[Enclosed Address: [Authorized to be charged to deposit account 19-Schwegman Lundberg & Woessner, P.A. 0743 P.O. Box 2938 Minneapolis, MN 55402--0938 Please charge any additional fees or credit any over payments to our Deposit Account No.: 19-0743 DO NOT USE THIS SPACE 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. David R. Cochran/Reg. No. 46,632 Name of Person Signing

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

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Total number of pages including cover sheet: 3

INVENTOR ASSIGNMENT TO THE UNIVERSITY OF SHEFFIELD

ASSIGNMENT from John P R David whose address is set forth on the signature page hereof (the "Inventor"), to The University of Shelfield, an educational institution, whose address is Firth Court, Western Bank, Shelfield, South Yorkshire, S10 2TN, United Kingdom (the "University").

WHEREAS, the Inventor, while employed by or enrolled at the University, conceived and/or reduced to practice one or more inventions which are described both in the disclosure described below and in other materials associated with the disclosure, including materials prepared after the date of this Assignment. The disclosure is identified as:

University COD Ref. No.	Title	
33027	Dynamic-Bias Enhanced Avalanche Phe Communication	

(both the disclosure and the associated materials are collectively referred to herein as the "Invention Disclosure");

WHEREAS, one or more patent application(s) either have been or may be filed in the funire in the United States Patent and Trademark Office and other patent offices covering the invention or inventions described in the Invention Disclosure (collectively, the "Patent Application(s)"). Any such patent application(s) filed as of the date hereof are described below:

Patent App. Serial No.	Country	Date of Filing	Title
Provisional 61/456,455	U.S.	November 5, 2010	Impact Ionization Devices under Dynamic Electric Fields
Non Provisional	U.S.	November 4, 2011	Impact Ionization Devices under Dynamic
A		*	Electric Fields

and

WHEREAS, the University is legally entitled to obtain a formal assignment from the Inventor of his/her entire right, title, and interest in and to invention(s) and related technology created by Inventor during his/her employment or enrollment by the University.

NOW, THEREFORE, the Inventor has agreed to assign and transfer and does hereby assign and transfer unto the University, its successors and assigns his/her entire right, title, and interest in and to: (a) the invention(s) described in the Invention Disclosure and/or Patent Application(s); (b) any technical information, know-how, trade secret, process, procedure. composition, biological materials, device, method, formula, protocol, technique, software, design, trade-name, trademark, copyright, copyrightable material, drawing or data which is related to the aforesaid invention(s) and/or that is included in the Invention Disclosure, whether or not covered by the Patent Application(s); (c) all rights of the Inventor in the Patent Application(s) including but not limited to all divisions, Letters Patent, reissues, re-examinations, continuations, continuations in-part, continuing patent applications, substitutions, renewals, extensions filed and all patent(s) issuing thereon in the United States and all foreign countries, including but not limited to the right to apply for Letters Patent, Utility Models, or Inventor Certificates or equivalents in foreign countries in the Inventor's own name and to claim any priority rights for such foreign applications to which such applications are entitled under such countries' domestic laws, international conventions, treaties, or otherwise; and (d) to the extent the University owns the same under its policies and practices, all improvements to the invention(s) described in the Invention Disclosure and/or Patent Application(s) hereafter made or invented by the Inventor (all of the foregoing, (a), (b), (c), and (d) being collectively referred to throughout this Assignment as the "Invention"); and (e) the right to assert claims and bring lawsuits for any violation or infringement of any of the intellectual property rights assigned hereby, including all patents issuing on the Patent Applications.

The Inventor has already agreed and does hereby warrant for himself/herself and heirs, executors, and administrators, to execute and deliver without further consideration any further applications, assignments, and documents, and to perform such other acts as lawfully may be deemed necessary by the University, its successors, assigns, and nominees, fully to secure its right, title, and interest as aforesaid and to obtain and maintain Letters Patent, Utility Models, or Inventors' Certificates in any and all counties; and the Inventor hereby authorizes and requests the Commissioner of Patents to issue any and all Letters Patent which may be granted upon any of said applications, to the University as the assignee of the entire right, title, and interest therein.

THE INVENTOR FURTHER ACKNOWLEDGES AND AGREES AS FOLLOWS:

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- 1. In accordance with the University's policies and practices, all net revenues from the Invention (all income received by the University, or its assignee, from commercialization of the Invention, not including payments for research, development or reimbursement of certain costs), shall be shared with the Inventor under the University's distribution of revenue policy.
- 2. For the purpose of enabling the University, its successors and assigns, without further consideration to obtain, defend and enforce all United States and foreign intellectual property rights in the Invention, the Inventor shall timely communicate all information, execute all documents, testify in all legal proceedings and take all such other actions necessary or desirable to accomplish such purpose at the request and expense of the University.
- 3. The Inventor authorizes the attorney of record for the Patent Application(s) without further consideration to insert in this Assignment where indicated above, or in an Addendum to be attached hereto, the filing date, country where filed, title and serial number of such Patent Application(s) filed hereafter as they become officially known.
- The Inventor authorizes and requests without further consideration all domestic and foreign patent office officials to issue all parents, when granted, to the University, its successors and assigns.
- The Inventor warrants and represents without further consideration that no assignment, sale, agreement or encumbrance has been or will be made or entered into by him/her which would conflict with this assignment.

In witness whereof the Inventor has set below by his/her hand:

John P. R. David

Assignor (Inventor) Signature:

Assignor (Inventor) Address: 57, Walkley Crescent Road, Sheffield, S6 5BA, U.K.

 $\frac{3/2/2016}{Date}$

United Kingdom

Signature of one witnesses

Witness:

Name GILLIAN HOGG

RECORDED: 02/19/2016

Address: 1 HUTCHINGS CLOSE

MILTON KEYNES

MAKS EDS

PATENT REEL: 037772 FRAME: 0511