(12) **UK Patent Application** (19)**GB** (11)**2510719** (13)**A**

(43)Date of Reproduction by UK Office   **13.08.2014**

(21) Application No: **1402449.1**

(22) Date of Filing: **14.06.2013**

    Date Lodged: **12.02.2014**

(30) Priority Data:
    (31) **61660537**   (32) **15.06.2012**   (33) **US**
    (31) **61660543**   (32) **15.06.2012**   (33) **US**
    (31) **61771031**   (32) **28.02.2013**   (33) **US**

(86) International Application Data:
    PCT/US2013/046012 En 14.06.2013

(87) International Publication Data:
    WO2013/188841 En 19.12.2013

(71) Applicant(s):
    Genia Technologies Inc.
    Suite 135, 320 Logue Avenue, Mountain View,
    CA 94043, United States of America

(72) Inventor(s):
    Randall Davis
    Roger Chen
    Arkadiusz Bibillo
    Kevin Deierling

(74) Agent and/or Address for Service:
    Avidity IP
    Kestrel House, Falconry Court, Baker's Lane,
    EPPING, Essex, CM16 5DQ, United Kingdom

(51) INT CL:
    C12Q 1/68 (2006.01)   *G01N 33/48* (2006.01)
    G01N 33/53 (2006.01)

(56) Documents Cited:
    US 20110192723 A1   **US 20100331194 A1**
    US 20070190542 A1
    VENKATESAN et al., "Nanopore sensors for nucleic acid analysis" Nature Nanotechnology, Vol.6, No.10, pp.615-02A (2011) See the whole document
    ROSENSTEIN et al., 'Integrated nanopore sensing platform with submicrosecond temporal resolution' Nature Methods, Vol.9, pp. 487-492 (18 March 2012) See the whole document.

(58) Field of Search:
    INT CL **C12Q, C40B, G01N**

(54) Title of the Invention: **Chip set-up and high-accuracy nucleic acid sequencing**
    Abstract Title: **Chip set-up and high-accuracy nucleic acid sequencing**

(57) The present disclosure provides devices, systems and methods for sequencing nucleic acid molecules. Nucleic acid molecules can be sequenced with a high accuracy (e.g., greater than 97% in a single pass) using a chip comprising an array of independently addressable nanopore sensors at a density of at least about 500 sites per 1 mm. An individual nanopore sensor can include a nanopore in a membrane that is adjacent or in proximity to a sensing electrode.

GB 2510719 A