



(51) International Patent Classification:
B81B 7/02 (2006.01) **G01N 35/08** (2006.01)

(21) International Application Number:
PCT/US2016/069249

(22) International Filing Date:
29 December 2016 (29.12.2016)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
62/273,104 30 December 2015 (30.12.2015) US
62/314,889 29 March 2016 (29.03.2016) US
62/428,539 1 December 2016 (01.12.2016) US

(71) Applicant: **BERKELEY LIGHTS, INC.** [US/US]; 5858 Horton Street, Suite 320, Emeryville, California 94608 (US).

(72) Inventors: **KURZ, Volker L.S.**; 5858 Horton Street, Suite 320, Emeryville, California 94608 (US). **LIONBERGER, Troy A.**; 5858 Horton Street, Suite 320, Emeryville, California 94608 (US). **SACKMANN, Eric K.**; 5858 Horton

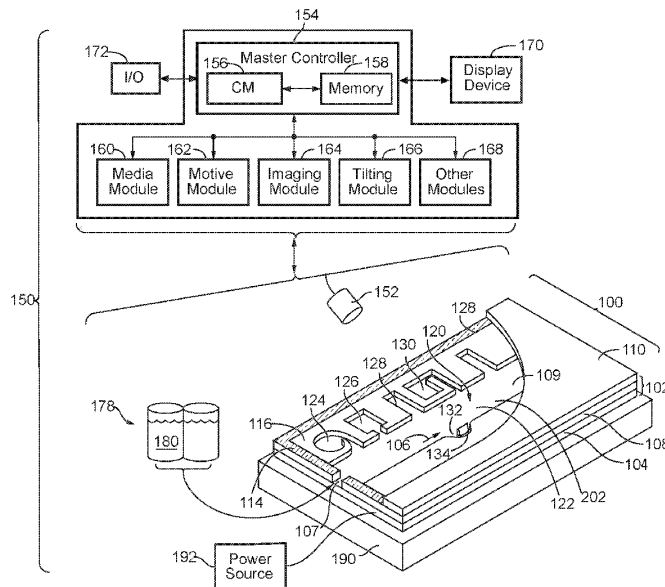
Street, Suite 320, Emeryville, California 94608 (US). **SZ-ETO, Kai W.**; 5858 Horton Street, Suite 320, Emeryville, California 94608 (US). **LEBEL, Paul M.**; 5858 Horton Street, Suite 320, Emeryville, California 94608 (US). **BRUHN, Brandon R.**; 5858 Horton Street, Suite 320, Emeryville, California 94608 (US). **BREINLINGER, Keith J.**; 5858 Horton Street, Suite 320, Emeryville, California 94608 (US). **HOBBS, Eric D.**; 5858 Horton Street, Suite 320, Emeryville, California 94608 (US). **MC FARLAND, Andrew W.**; 5858 Horton Street, Suite 320, Emeryville, California 94608 (US). **NEVILL, Tanner J.**; 5858 Horton Street, Suite 320, Emeryville, California 94608 (US). **WANG, Xiaohua**; 5858 Horton Street, Suite 320, Emeryville, California 94608 (US).

(74) Agent: **HORTON, Kenneth E.**; Kirton Mcconkie, 36 S. State Street, Suite 1900, Salt Lake City, Utah 84111 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KH, KN,

[Continued on next page]

(54) Title: MICROFLUIDIC DEVICES FOR OPTICALLY-DRIVEN CONVECTION AND DISPLACEMENT, KITS AND METHODS THEREOF





KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE,

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))