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Application Number: 14555102

Document Date: 11/26/2014

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Form Revision Date: August 26, 2013

Form PTO-1449 (modified)		Atty. Docket No.: BECC.P0002US.CIP	Serial No.: 14/555,102
List of Patents and Publications for Applicant's INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Applicant: Yong Qin Chen	
		Filing Date: November 26, 2014	Group: 2884
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U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A1	20020141902	10/3/02	Ozasa et al.	422	82.09	3/27/02
	A2	20030142720	7/31/03	Bradburn et al.	372	108	5/24/02
	A3	20040218184	11/4/04	Joregenson et al.	356	419	2/27/04
	A4	20050084402	4/21/05	Vanek	417	477.3	10/27/04
	A5	20060221325	10/5/06	Wells	356	73	3/30/05
	A6	20060245964	11/2/06	Koslov	417	477.1	6/29/06
	A7	20060256335	11/16/06	Chen	356	369	5/3/06
	A8	20060292021	12/28/06	Tu	417	477.1	11/7/02
	A9	20070124947	6/7/07	Munroe et al.	33	286	10/25/06
	A10	20080024758	1/31/08	Tabata	356	39	7/26/07
	A11	20080241911	10/2/08	Ueno et al.	435	287.1	3/28/08
	A12	20090091746	4/9/09	Fukuda et al.	356	73	10/1/08
	A13	20090190128	7/30/09	Cerni et al.	356	336	11/24/08
	A14	20110014075	1/20/11	Reif et al.	417	477.12	7/1/10
	A15	20110032522	2/10/11	Graves et al.	356	338	10/12/10
	A16	20120156074	6/21/12	Kusch et al.	417	477.3	2/4/10
	A17	20120274925	11/1/12	Chen et al.	356	73	11/1/12
	A18	20120281204	11/8/12	Hoshishima et al.	356	72	1/13/11
	A19	20120282126	11/8/12	Brandt et al.	417	477.9	11/4/10
	A20	20120287419	11/15/12	Sharpe et al.	356	51	5/11/12
	A21	20130010181	1/10/13	Baba	348	360	3/14/11
	A22	20130020498	1/24/13	Ebi et al.	250	435	7/18/12
	A23	20130050782	2/28/13	Heng et al.	358	494	2/17/12

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Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A24	20130070243	3/21/13	Goehde	356	338	11/9/12
	A25	20130094102	4/18/13	Baba	359	784	7/13/10
	A26	20130204538	8/8/13	Rich	702	21	10/25/11
	A27	2385495	9/25/45	Brian	250	487.1	8/21/43
	A28	2669709	2/16/54	Glancy et al.	348	784	10/19/60
	A29	2764147	9/25/56	Brunner	126	247	2/23/51
	A30	315667	4/14/85	Serdinko	417	475	10/20/84
	A31	3411293	11/19/68	Akins	60	454	10/20/66
	A32	3542491	11/24/70	Newman	417	295	5/27/69
	A33	3661460	5/9/72	Elking et al.	356	36	8/28/70
	A34	3726613	4/10/73	von Casimir	417	477.1	10/12/70
	A35	3826593	7/30/74	von Casimir	417	53	5/11/73
	A36	3873204	3/25/75	Friedman et al.	356	39	11/29/72
	A37	3946239	3/23/76	Salzman et al.	250	461.2	1/24/75
	A38	3953727	4/27/76	d'Auria et al.	398	88	1/17/75
	A39	3989381	11/2/76	Fulwyler	356	39	5/5/75
	A40	4073574	2/14/78	Clarke et al.	359	728	10/1/76
	A41	4188543	2/12/80	Brunsting et al.	250	458.1	4/24/78
	A42	4189236	2/19/80	Hogg et al.	356	317	3/20/78
	A43	4244045	1/6/81	Nosu et al.	398	86	1/31/79
	A44	4482994	11/13/84	Ishikawa	398	86	6/7/82
	A45	4515274	5/7/85	Hollinger et al.	209	3.1	12/2/81
	A46	4564342	1/14/86	Weber et al.	417	477.6	7/24/84

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Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A47	4576556	3/18/86	Thompson	417	477.12	4/2/80
	A48	4623225	11/18/86	Forkner	359	669	6/29/84
	A49	4727020	2/23/88	Recktenwald	435	6.11	2/25/85
	A50	4745285	5/17/88	Recktenwald et al.	250	458.1	8/21/86
	A51	4778253	10/18/88	Siga et al.	359	819	3/26/86
	A52	4834630	5/30/89	Godwin	417	475	2/16/88
	A53	4871249	10/3/89	Watson	356	73	7/1/88
	A54	4920275	4/24/90	Itoh	250	574	12/30/88
	A55	4950136	8/21/90	Haas et al.	417	477.7	8/14/89
	A56	4976590	12/11/90	Baldwin	417	53	6/8/88
	A57	4997275	3/5/91	Gaucher et al.	356	72	9/23/88
	A58	5050963	9/24/91	Murakami	359	808	10/9/90
	A59	5142462	8/25/92	Kashima	362	268	4/27/90
	A60	5177641	1/5/93	Kobayashi et al.	359	820	10/30/90
	A61	5230614	7/27/93	Zanger et al.	417	477.9	6/3/92
	A62	5245318	9/14/93	Tohge et al.	340	611	12/15/92
	A63	5251060	10/5/93	Uenishi et al.	359	328	9/30/92
	A64	5299066	3/29/94	Rombult	359	819	8/12/92
	A65	5317162	5/31/94	Pinsky et al.	250	461.2	9/9/92
	A66	5369476	11/29/94	Bowers et al.	399	49	1/28/92
	A67	5373395	12/13/94	Adachi	359	652	5/10/93
	A68	5396487	3/7/95	Abe et al.	359	819	10/31/91
	A69	5467225	11/14/95	Manabe	359	661	11/1/94

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	A70	5470211	11/28/95	Knott et al.	417	477.9	8/11/94
	A71	5475210	12/12/95	Taguchi et al.	250	205	6/8/93
	A72	5548395	8/20/96	Kosaka	356	73	8/31/92
	A73	5583683	12/10/96	Scobey	398	79	6/15/95
	A74	5615200	3/25/97	Hoshino et al.	369	112.04	4/14/95
	A75	5746585	5/5/98	McDunn et al.	417	477.11	12/31/96
	A76	5748372	5/5/98	Kitagawa	359	565	4/17/96
	A77	5777674	7/7/98	Ohmuro	348	338	4/10/95
	A78	5781351	7/14/98	Murakami et al.	359	808	5/31/96
	A79	5786915	7/28/98	Scobey	398	82	10/22/96
	A80	5788927	8/4/98	Farrell et al.	422	63	6/30/96
	A81	5805363	9/8/98	Okuda et al.	359	819	7/17/97
	A82	5850292	12/15/98	Braun	356	419	11/13/97
	A83	5915925	6/29/99	North Jr.	417	36	1/7/97
	A84	5971713	10/26/99	North Jr.	417	36	12/29/98
	A85	6008920	12/28/99	Hendrix	398	79	3/11/98
	A86	6017194	1/25/00	North Jr.	417	36	12/31/98
	A87	6102678	8/15/00	Peclat	417	477.7	4/3/98
	A88	6135734	10/24/00	Isozumi et al.	417	542	9/23/98
	A89	6200101	3/13/01	North Jr.	417	36	7/6/99
	A90	6252719	6/26/01	Eichenbaum	359	634	3/19/99
	A91	6315952	11/13/01	Sklar et al.	422	63	6/10/99
	A92	6510007	1/21/03	Blasenheim	359	659	8/21/01

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	A93	6542306	4/1/03	Goodman	359	634	3/16/01
	A94	6572255	6/3/03	Husher	366	132	4/24/01
	A95	6608682	8/19/03	Ortyn et al.	356	419	10/12/01
	A96	6618143	9/9/03	Roche et al.	356	339	10/2/01
	A97	6638481	10/28/03	Sklar et al.	422	63	9/19/01
	A98	6647175	11/11/03	LoRegio et al.	385	24	10/8/01
	A99	6683314	1/27/04	Oostman Jr. et al.	250	461.2	8/28/01
	A100	6713019	3/30/04	Ozasa et al.	422	82.09	3/27/02
	A101	6748133	6/8/04	Liu et al.	385	24	11/26/01
	A102	6767188	7/27/04	Vrane et al.	417	40	8/15/02
	A103	6768593	7/27/04	Jutamulia	359	641	7/24/03
	A104	6788409	9/7/04	Goodwin	356	339	9/3/02
	A105	6794671	9/21/04	Nicoli et al.	250	574	7/17/02
	A106	6813017	11/2/04	Hoffman et al.	356	317	10/19/00
	A107	6839367	1/4/05	Nagamatsu et al.	372	34	3/16/01
	A108	6870679	3/22/05	Randall et al.	359	580	6/10/02
	A109	6870976	3/22/05	Chen et al.	385	14	3/13/01
	A110	6897954	5/24/05	Bishop et al.	356	317	12/20/02
	A111	6941047	9/6/05	Capewell et al.	385	47	3/1/04
	A112	6954722	10/11/05	Parks et al.	702	194	10/17/03
	A113	6975400	12/13/05	Ortyn et al.	356	419	7/28/03
	A114	7038778	5/2/06	Yamauchi	356	419	8/13/02
	A115	7072540	7/4/06	Szapiel et al.	385	24	4/22/03

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	A116	7110192	9/19/06	Sauter et al.	359	754	1/12/05
	A117	7113266	9/26/06	Wells	356	73	3/30/05
	A118	7127356	10/24/06	Nicoli et al.	702	26	5/18/04
	A119	7129505	10/31/06	Oostman Jr. et al.	250	458.1	10/17/03
	A120	7212343	5/1/07	He et al.	359	618	7/11/03
	A121	7260328	8/21/07	Kropp	398	82	2/24/03
	A122	7262838	8/28/07	Fritz	356	73	1/16/04
	A123	7268953	9/11/07	Matthae et al.	359	656	6/7/06
	A124	7305018	12/4/07	Otoma	372	50.1	12/29/05
	A125	7381565	6/3/08	Kurabayashi et al.	436	63	3/20/06
	A126	7385682	6/10/08	Chu et al.	356	73	9/7/06
	A127	7430048	9/30/08	Reel et al.	356	432	2/16/06
	A128	7450229	11/11/08	Ortyn et al.	356	326	5/4/05
	A129	7453915	11/18/08	Imai	372	50.1	12/5/06
	A130	7456960	11/25/08	Cerni et al.	356	336	11/15/05
	A131	7496463	2/24/09	Nicoli et al.	702	104	9/12/06
	A132	7505131	3/17/09	Roth	356	317	3/6/08
	A133	7507588	3/24/09	Mehrpouyan et al.	436	518	4/14/06
	A134	7561267	7/14/09	Luo et al.	356	336	12/22/06
	A135	7580120	8/25/09	Hamada et al.	356	73	4/6/06
	A136	7623243	11/24/09	Kato	356	419	9/13/04
	A137	7645127	1/12/10	Hagen et al.	417	477.12	6/29/06
	A138	7668422	2/23/10	Kropp	385	47	3/12/04

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	A139	7758324	6/20/10	Baumann et al.	417	477.2	5/12/05
	A140	7768120	8/3/10	Takashima	257	706	12/27/07
	A141	7781227	8/24/10	Mehrpouyan et al.	436	523	3/4/09
	A142	7787197	8/31/10	Chen	359	793	9/4/08
	A143	7835000	11/16/10	Graves et al.	356	338	11/3/06
	A144	7876436	1/25/11	Chu	356	338	10/31/07
	A145	7894047	2/22/11	Hamada et al.	356	39	7/24/09
	A146	7952981	3/31/11	Suzuki	369	121	10/23/08
	A147	7981661	7/19/11	Rich	435	286.5	4/17/07
	A148	8009189	8/30/11	Ortyn et al.	348	80	6/3/08
	A149	8049185	11/1/11	Hayashi et al.	250	459.1	2/4/09
	A150	8149525	4/3/12	Do	359	797	3/28/07
	A151	8157547	4/17/12	Vrieling	417	477.3	4/23/07
	A152	8187888	5/29/12	Rich	436	63	7/8/11
	A153	8213472	7/3/12	Hirai et al.	372	36	1/23/08
	A154	8229707	7/24/12	Olson et al.	702	189	7/4/11
	A155	8233146	7/31/12	Chen	356	246	1/5/10
	A156	8253938	8/28/12	Vacca et al.	356	337	5/26/11
	A157	8270098	9/18/12	Fukuta et al.	359	784	2/19/09
	A158	8284402	10/9/12	Frazier et al.	356	419	2/26/10
	A159	8337096	12/25/12	Shen et al.	385	89	11/30/09
	A160	8345237	1/1/13	Tsukii et al.	356	338	12/23/11
	A161	8405048	3/26/13	Hayashi	250	458.1	2/4/09

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	A162	8432541	4/30/13	Rich	356	246	11/4/10
	A163	8436371	5/7/13	Medendorp Jr., et al.	257	88	5/24/07
	A164	8436993	5/7/13	Kaduchak et al.	356	337	2/3/12
	A165	8488244	7/16/13	Li et al.	359	618	2/17/11
	A166	8507279	8/13/13	Ball et al.	436	10	6/2/10

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	B1	CN 102087198	6/8/11	China	Chinese (English abstract)
	B2	CN 102818794	12/12/12	China	Chinese (English abstract)
	B3	CN 102818795	12/12/12	China	Chinese (English abstract)
	B4	CN 102818796	12/12/12	China	Chinese (English abstract)
	B5	CN 201917509U	8/3/11	China	Chinese (English abstract)
	B6	CN 201936066U	8/17/11	China	Chinese (English abstract)
	B7	CN 201984209U	9/21/11	China	Chinese (English abstract)
	B8	EP 0889319	1/7/99	EPO	German (English abstract)
	B9	EP 1004907	4/22/09	EPO	English
	B10	EP 1953526	8/6/08	EPO	English
	B11	EP 2381475	3/4/15	EPO	English
	B12	EP 459764A2	12/4/91	EPO	English
	B13	EP 459764B1	12/11/96	EPO	English
	B14	EP 757346A1	2/5/97	EPO	English
	B15	EP 757346B1	11/14/01	EPO	English
	B16	EP 758755A2	2/19/97	EPO	English
	B17	JP 05333245	12/17/93	Japan	Japanese (English abstract)
	B18	JP 829726	2/2/96	Japan	Japanese (English translation)
	B19	WO 0057173	9/28/00	WIPO	English
	B20	WO 0127590	4/19/01	WIPO	English
	B21	WO 0140764	6/7/01	WIPO	English
	B22	WO 03012403	2/13/03	WIPO	French (English abstract)
	B23	WO 2005033654	4/14/05	WIPO	English
	B24	WO 2006013316	2/9/06	WIPO	English
	B25	WO 2009095358	8/6/09	WIPO	German (English abstract)
	B26	WO 2009098867	8/13/09	WIPO	Japanese (English abstract)

Form PTO-1449 (modified)		Atty. Docket No.: BECC.P0002US.CIP	Serial No.: 14/555,102
List of Patents and Publications for Applicant's INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Applicant: Yong Qin Chen	
		Filing Date: November 26, 2014	Group: 2884
U.S. Patent Documents See Page 1	Foreign Patent Documents See Page 9	Other Art See Page 10	

Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Language
	B27	WO 2011026942	3/10/11	WIPO	English
	B28	WO 2012056217	5/3/12	WIPO	English
	B29	WO 2012177367	12/27/12	WIPO	English
	B30	WO 2013013229	1/24/13	WIPO	English
	B31	WO 2013093035	6/27/13	WIPO	English
	B32	WO 9307471	4/15/93	WIPO	English
	B33	WO 9316368	8/19/93	WIPO	English
	B34	WO 9429695	12/22/94	WIPO	English
	B35	WO 9714066A2	4/17/97	WIPO	English

Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C1	International Search Report and Written Opinion for PCT/US2013/043453 mailed December 20, 2013.
	C2	International Search Report and Written Opinion for PCT/US2014/067682 mailed April 9, 2015.
	C3	Brogioli et al., "Heterodyne near-field scattering," <i>Applied Physics Letters</i> 81(22):4109-4111, 2002.
	C4	Schmidt, B., "Ein lichtstarkes komafreies Spiegelsystem," <i>Mitteilungen der Haburger Sternwarte in Bergedorf</i> 7(36):15-17, 1932.
	C5	Smiley, C. H., "The Schmidt Camera," <i>Popular Astronomy</i> 44:415-421, 1936.

Electronic Acknowledgement Receipt	
EFS ID:	22546358
Application Number:	14555102
International Application Number:	
Confirmation Number:	4589
Title of Invention:	FLOW CYTOMETER
First Named Inventor/Applicant Name:	Yong Qin Chen
Customer Number:	129381
Filer:	Gina N. Shishima/Ben Horton
Filer Authorized By:	Gina N. Shishima
Attorney Docket Number:	BECC.P0002US.CIP(12US0040
Receipt Date:	05-JUN-2015
Filing Date:	26-NOV-2014
Time Stamp:	10:57:34
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		IDS.pdf	961901	yes	12
			046681462936ed398246d5f4fabe6439b76480f		

	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Transmittal Letter		1	2	
	Information Disclosure Statement (IDS) Form (SB08)		3	12	
Warnings:					
Information:					
2	Non Patent Literature	Brogioli_2002.PDF	129664	no	3
			ba76ece2c16fc3aa788890ff2f5a9497b8b770f		
Warnings:					
Information:					
3	Foreign Reference	CN102087198A.PDF	417874	no	7
			7d53ffde60c76c1f8215d39dd7c7537664a3be7		
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Information:					
4	Foreign Reference	CN102818794A.PDF	526881	no	9
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5	Foreign Reference	CN102818795A.PDF	584685	no	9
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6	Foreign Reference	CN201917509U.PDF	422303	no	7
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7	Foreign Reference	CN102818796A.PDF	547724	no	9
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9	Foreign Reference	CN201984209U.PDF	444000	no	8
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10	Foreign Reference	EP0459764A2.PDF	1532115	no	29
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Warnings:					
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11	Foreign Reference	EP0459764B1.PDF	1356602	no	25
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12	Foreign Reference	EP0757346A1.PDF	656880	no	11
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17	Foreign Reference	EP1953526A2.PDF	408797	no	31
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Information:					

18	Foreign Reference	EP2381475B1.PDF	753878	no	14
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19	Foreign Reference	JPH05333245A.PDF	196161	no	7
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20	Other Reference-Patent/App/Search documents	PCT_US2013_043453_ISR.PDF	560541	no	11
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22	Non Patent Literature	Schmidt_1932.PDF	4747622	no	5
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23	Non Patent Literature	Smiley_1936.PDF	190030	no	7
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24	Foreign Reference	JP08029726A.pdf	1841765	no	16
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25	Foreign Reference	WO0057173A1.PDF	521767	no	13
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26	Foreign Reference	WO0127590.PDF	705227	no	20
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Information:					

27	Foreign Reference	WO0140764.PDF	317274	no	29
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29	Foreign Reference	WO9307471A1.PDF	430459	no	35
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Information:					

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39	Foreign Reference	WO2012177367A2.PDF	1934559	no	39
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41	Foreign Reference	WO2013093035A1.PDF	209038	no	34
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Warnings:					
Information:					
Total Files Size (in bytes):			37247614		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Yong Qin Chen

Serial No.: 14/555,102

Filed: November 26, 2014

For: Flow Cytometer

Group Art Unit: 2884

Examiner: Mindy D. Vu

Atty. Dkt. No.: BECC.P0002US.CIP

Confirmation No.: 4589

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

CERTIFICATE OF ELECTRONIC TRANSMISSION 37 C.F.R. § 1.8	
I hereby certify that this correspondence is being electronically filed with the United States Patent and Trademark Office via EFS-Web on the date below:	
<u>6/5/15</u> Date	<u>Gina N. Shishima</u> Gina N. Shishima

INFORMATION DISCLOSURE STATEMENT

Commissioner:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56, it is respectfully requested that this Information Disclosure Statement be entered and the documents listed on attached Form PTO-1449 be considered by the Examiner and made of record. Copies of the listed documents required by 37 C.F.R. § 1.98(a)(2) are enclosed for the convenience of the Examiner.

In accordance with 37 C.F.R §§ 1.97(g), (h), this Information Disclosure Statement is not to be construed as a representation that a search has been made, and is not to be construed to be an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

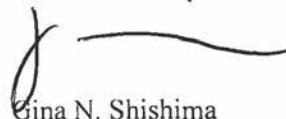
The present Information Disclosure Statement is being filed prior to the receipt of a first Official Action reflecting an examination on the merits, and hence is believed to be timely filed

in accordance with 37 C.F.R. § 1.97(b). No fees are believed to be due in connection with the filing of this Information Disclosure Statement, however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be deemed necessary for any reason relating to these materials, the Commissioner is authorized to deduct the appropriate fees from Norton Rose Fulbright US LLP Deposit Account No.: 50-1212/BECC.P0002US.CIP.

Please note that an English translation of reference C4 (Schmidt, 1932) is not included per 37 C.F.R. § 1.98(a)(3)(ii) because it is not readily available. The explanation of relevance of this reference can be found in the Specification of the subject application. Similar contents to the Schmidt reference can be found in reference C5 (Smiley, 1936) submitted herewith.

Applicants respectfully request that the listed documents be made of record in the present case.

Respectfully submitted,



Gina N. Shishima
Reg. No. 45,104
Attorney for Applicants

NORTON ROSE FULBRIGHT US LLP
98 San Jacinto Blvd., Suite 1100
Austin, TX 78701
(512) 474-5201

Date: 6/5/15



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/555,102	11/26/2014	Yong Qin Chen	BECC.P0002US.CIP(12US0040	4589
129381 7590 04/20/2016 NORTON ROSE FULBRIGHT US LLP - BCI 98 San Jacinto Blvd., Suite 1100 Austin, TX 78701			EXAMINER VU, MINDY D	
			ART UNIT 2884	PAPER NUMBER
			NOTIFICATION DATE 04/20/2016	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

aoipdocket@nortonrosefulbright.com
PatentDocket@Beckman.com

Office Action Summary	Application No. 14/555,102	Applicant(s) CHEN, YONG QIN	
	Examiner MINDY VU	Art Unit 2884	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____.; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) ☒ Claim(s) 364-386 is/are pending in the application.
5a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) _____ is/are allowed.
- 7) ☐ Claim(s) _____ is/are rejected.
- 8) ☐ Claim(s) _____ is/are objected to.
- 9) ☒ Claim(s) 364-386 are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some** c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) ☐ Notice of References Cited (PTO-892) | 3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
Paper No(s)/Mail Date _____ | 4) ☐ Other: _____ |

DETAILED ACTION

The present application is being examined under the pre-AIA first to invent provisions.

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 364- 382, drawn to a flow cytometer having a wavelength division multiplexer, classified in G01N 15/14.
- II. Claim 383, drawn to a flow cytometer having a composite microscope objective, classified in G01N 2015/1452.
- III. Claim 384, drawn to a flow cytometer having a fluidic system, classified in G01N 15/1404.
- IV. Claim 385, drawn to a flow cytometer having a peristaltic pump, classified in G01N 15/1404.
- V. Claim 386, drawn to a flow cytometer having a laser diode system, classified in G01N 15/1434.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II, III, IV, V are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because a composite

microscope objective, a fluidic system, a peristaltic pump, or a laser diode based optical system are not required by the claimed combination. The subcombination has separate utility such as can be used in systems other than flow cytometer.

The examiner has required restriction between combination and subcombination inventions. Where applicant elects a subcombination, and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

Inventions II, III, IV and V are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination II has separate utility such as a composite microscope objective. In the instant case, subcombination III has separate utility such as a fluidic system. In the instant case, subcombination IV has separate utility such as a peristaltic pump. In the instant case, subcombination V has separate utility such as a laser diode based optical system. See MPEP § 806.05(d).

The examiner has required restriction between subcombinations usable together. Where applicant elects a subcombination and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and/or examination burden if restriction were not required because one or more of the following reasons apply:

As set forth above.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time

of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable upon the elected invention.

Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103 or pre-AIA 35 U.S.C. 103(a) of the other invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MINDY VU whose telephone number is (571)272-8539. The examiner can normally be reached on M-F 9am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DAVID PORTA/
Supervisory Patent Examiner, Art
Unit 2884

/M. V./
Examiner, Art Unit 2884

<i>Index of Claims</i> 	Application/Control No. 14555102	Applicant(s)/Patent Under Reexamination CHEN, YONG QIN
	Examiner MINDY VU	Art Unit 2884

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant											☐ CPA											☐ T.D.											☐ R.1.47										
CLAIM			DATE																																								
Final	Original	04/13/2016																																									
	364	+																																									
	365	+																																									
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	382	+																																									
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	384	+																																									
	385	+																																									
	386	+																																									

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Yong Qin Chen

Serial No.: 14/555,102

Filed: November 26, 2014

For: FLOW CYTOMETER

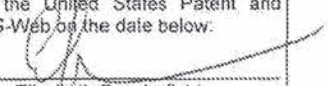
Group Art Unit: 2884

Examiner: Vu, Mindy D.

Atty. Dkt. No.: BECC.P0002US.CIP

Confirmation No.: 4589

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

CERTIFICATE OF ELECTRONIC TRANSMISSION 37 C.F.R. § 1.8	
I hereby certify that this correspondence is being electronically filed with the United States Patent and Trademark Office via EFS-Web on the date below:	
June 3, 2016 Date	 Elizabeth Beasterfield

RESPONSE TO RESTRICTION REQUIREMENT DATED APRIL 20, 2016

Commissioner:

Applicants submit this paper in response to the Restriction Requirement dated April 20, 2016, for which the date for response is June 20, 2016.

Amendments to the Claims begin on page 2.

Remarks begin on page 6.

AMENDMENT TO THE CLAIMS

The listing of claims will replace all prior versions, and listing of claims in the application.

1-363. (Canceled)

364. (Previously presented) A flow cytometer having a wavelength division multiplexer (WDM), the WDM comprising:

an extended light source providing light that forms an object;

a collimating optical element that captures light from the extended light source and projects a magnified image of the object as a first light beam; and

a first focusing optical element configured to focus the first light beam to a size smaller than the object of the extended light source to a first semiconductor detector.

365. (Previously presented) The flow cytometer of claim 364, wherein the first focusing optical element is configured to focus the first light beam to a size smaller than 1 mm in diameter.

366. (Previously presented) The flow cytometer of claim 364, further comprising an image relay optical element arranged to receive a color band of interest of the first light beam, the image relay optical element configured to project a second image as a second light beam, wherein the second light beam is substantially a unit magnification of the first light beam.

367. (Previously presented) The flow cytometer of claim 366, wherein the image relay optical element is one of a refractive optical device and a concave mirror.

368. (Previously presented) The flow cytometer of claim 366, wherein the image relay optical element is a concave mirror having a radius of curvature approximately equal to the distance between the collimating optical element and the magnified image projected thereby.

369. (Previously presented) The flow cytometer of claim 366, further comprising a second focusing optical element configured to focus the second light beam to a size smaller than the object of the extended light source to a second semiconductor detector.

370. (Previously presented) The flow cytometer of claim 369, wherein the optical path length between the collimating optical element and the first focusing optical element is substantially the same as the optical path length between the image relay optical element and the second focusing optical element.

371. (Previously presented) The flow cytometer of claim 366, wherein the image relay optical element is a concave shaped dichroic filter.

372. (Previously presented) The flow cytometer of claim 366, further comprising a dichroic filter disposed between the collimating optical element and the first focusing optical element.

373. (Previously presented) The flow cytometer of claim 372, wherein the optical path length between the collimating optical element and the first focusing optical element is substantially the same as the optical path length between the collimating optical element, the dichroic filter, and the image relay optical element.

374. (Previously presented) The flow cytometer of claim 372, wherein the dichroic filter is bonded to a filter holder such that a coated filter surface of the dichroic filter is indented and optically parallel to a reference surface of the filter holder.

375. (Previously presented) The flow cytometer of claim 374, wherein the reference surface of the filter holder rests against an optically flat surface of a reference block included in the WDM, thereby providing consistent optical alignment when installing the dichroic filter into the WDM.

376. (Previously presented) The flow cytometer of claim 364, wherein the object is formed by one of light passing through a pinhole and light emitted from a facet of a multimode optical fiber.

377. (Previously presented) The flow cytometer of claim 364, wherein the first light beam focused by the first focusing optical element is approximately the same size as the effective size of the collimating optical element.

378. (Previously presented) The flow cytometer of claim 364, wherein the size of the magnified image of the object is less than approximately ten times the size of the object of the extended light source.

379. (Previously presented) The flow cytometer of claim 364, further comprising a composite microscope objective to direct light emitted by a particle in a flow channel in a viewing zone of the composite microscope to the extended light source, the particle illuminated by an illumination light, the composite microscope objective including,

a spherical mirror located on a first side of the viewing zone, the spherical mirror configured to reflect the emitted light, and,

an aberration corrector plate located on a second side of the viewing zone opposite the first side, the aberration corrector plate configured to reduce optical aberrations in the reflected light caused by the spherical mirror.

380. (Previously presented) The flow cytometer of claim 379, further comprising a fluidic system configured to supply liquid sheath to the flow channel, the fluidic system having a T-coupling arrangement configured to receive the liquid sheath from a reservoir and to direct a first fraction of the liquid sheath back to the reservoir via a bypass conduit and a second fraction of the liquid sheath to the flow channel.

381. (Previously presented) The flow cytometer of claim 379, further comprising a peristaltic pump configured to supply liquid sample to the flow channel, the peristaltic pump including a pump housing having a arcuate curved track formed therein, a plurality of rollers,

and a compressible tube sandwiched between the rollers and the arcuate curved track, the arcuate curved track further including at least one recess section located between at least two pumping sections along the arcuate curved track.

382. (Previously presented) The flow cytometer of claim 379, further comprising a beam compressing optical element configured to compress the illumination light along an axis perpendicular to the direction of the flow channel.

383-386. (Canceled)

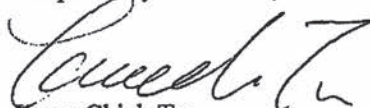
REMARKS

In response to the restriction requirement, Applicants hereby elect the claims identified with respect to Group I, Claims 364-382 for continued examination, without traverse. Accordingly, claims 383-386 are canceled, all of which are directed to non-elected inventions. No new matter is added. Applicants reserve the right to reintroduce these claims upon an allowance of an appropriate generic claim.

It is believed that no fees are due; however, should any fees be required under 37 C.F.R. §§ 1.16 to 1.21 in connection with the filing of this paper, the Commissioner is authorized to deduct said fees from Norton Rose Fulbright US LLP Account No.: 50-1212/BECC.P0002US.CIP/11412161.

The Examiner is invited to contact the undersigned attorney with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,



Kuan-Chieh Tu
Reg. No.: 70,414
Attorney for Applicants

NORTON ROSE FULBRIGHT US LLP
98 San Jacinto Blvd., Suite 1100
Austin, Texas 78701
(512) 474-5201

Date: 6.3.2016

Electronic Acknowledgement Receipt	
EFS ID:	25968671
Application Number:	14555102
International Application Number:	
Confirmation Number:	4589
Title of Invention:	FLOW CYTOMETER
First Named Inventor/Applicant Name:	Yong Qin Chen
Customer Number:	129381
Filer:	R Ross Viguette/Elizabeth Beasterfield
Filer Authorized By:	R Ross Viguette
Attorney Docket Number:	BECC.P0002US.CIP(12US0040
Receipt Date:	03-JUN-2016
Filing Date:	26-NOV-2014
Time Stamp:	17:30:49
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment		no			
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		BECCP0002USCIP_RespToRestriction_6-3-16.pdf	385379 fadd44bce6476faabc01643ebab612d5c951529e	yes	6

Multipart Description/PDF files in .zip description			
Document Description		Start	End
Response to Election / Restriction Filed		1	1
Claims		2	5
Applicant Arguments/Remarks Made in an Amendment		6	6

Warnings:

Information:

Total Files Size (in bytes):	385379
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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Form PTO-1449 (modified)		Atty. Docket No.: BECC.P0002US.CIP	Serial No.: 14/555,102
List of Patents and Publications for Applicant's INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Applicant: Iris International, Inc.	
		Filing Date: November 26, 2014	Group: 2884
U.S. Patent Documents <i>See Page 1</i>	Foreign Patent Documents <i>none</i>	Other Art <i>See Page 1</i>	

U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A167	2004165828	8/26/04	Capewell et al.	385	47	3/1/04
	A168	6159686	12/12/00	Kardos et al.	435	6	1/30/98

Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Language
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Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C6	Extended European Search Report for EP 13796734.5, mailed March 18, 2016.
	C7	Goda et al., "Serial time-encoded amplified imaging for observation of fast dynamic phenomena", <i>Nature</i> 458:1145-1149, 2009.

42271887.1

EXAMINER:

DATE CONSIDERED:

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

INFORMATION DISCLOSURE STATEMENT — PTO-1449 (MODIFIED)

Electronic Acknowledgement Receipt	
EFS ID:	25968632
Application Number:	14555102
International Application Number:	
Confirmation Number:	4589
Title of Invention:	FLOW CYTOMETER
First Named Inventor/Applicant Name:	Yong Qin Chen
Customer Number:	129381
Filer:	Gina N. Shishima/Ben Horton
Filer Authorized By:	Gina N. Shishima
Attorney Docket Number:	BECC.P0002US.CIP(12US0040
Receipt Date:	03-JUN-2016
Filing Date:	26-NOV-2014
Time Stamp:	17:29:14
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment		no			
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		IDS.pdf	261098 874063112cd1a97031bc0cc0716b5bc3360892e5	yes	3

Multipart Description/PDF files in .zip description					
Document Description			Start	End	
Transmittal Letter			1	2	
Information Disclosure Statement (IDS) Form (SB08)			3	3	
Warnings:					
Information:					
2	Other Reference-Patent/App/Search documents	EESR.pdf	431053 175e0b1b131b29120802dae7156b0d51601ed6d8	no	9
Warnings:					
Information:					
3	Non Patent Literature	Goda_2009.pdf	745218 3fde7d1a16292435290110601959a43dace6a85d	no	6
Warnings:					
Information:					
Total Files Size (in bytes):			1437369		
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Iris International, Inc.

Serial No.: 14/555,102

Filed: November 26, 2014

For: FLOW CYTOMETER

Group Art Unit: 2884

Examiner: Mindy D. Vu

Atty. Dkt. No.: BECC.P0002US.CIP

Confirmation No.: 4589

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

CERTIFICATE OF ELECTRONIC TRANSMISSION
37 C.F.R. § 1.8

I hereby certify that this correspondence is being electronically filed with the United States Patent and Trademark Office via EFS-Web on the date below:

June 3, 2016
Date

/Kuan-Chieh Tu/
Kuan-Chieh Tu

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56, it is respectfully requested that this Supplemental Information Disclosure Statement be entered and the documents listed on attached Form PTO-1449 be considered by the Examiner and made of record. Copies of the listed documents required by 37 C.F.R. § 1.98(a)(2) are enclosed for the convenience of the Examiner.

In accordance with 37 C.F.R. §§ 1.97(g), (h), this Supplemental Information Disclosure Statement is not to be construed as a representation that a search has been made, and is not to be construed to be an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

The present Supplemental Information Disclosure Statement is being filed prior to the receipt of a first Official Action reflecting an examination on the merits, and hence is believed to

be timely filed in accordance with 37 C.F.R. § 1.97(b). No fees are believed to be due in connection with the filing of this Supplemental Information Disclosure Statement, however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be deemed necessary for any reason relating to these materials, the Commissioner is authorized to deduct the appropriate fees from Norton Rose Fulbright US LLP Deposit Account No.: 50-1212/BECC.P0002US.CIP/11412161.

Applicants respectfully request that the listed documents be made of record in the present case.

Respectfully submitted,



Kuan-Chieh Tu

Reg. No.: 70,414

Attorney for Applicants

NORTON ROSE FULBRIGHT US LLP
98 San Jacinto Blvd., Suite 1100
Austin, TX 78701
(512) 474-5201

Date:

6.3.2016

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 14/555,102		Filing Date 11/26/2014		☐ To be Mailed	
ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO									
APPLICATION AS FILED – PART I									
(Column 1)		(Column 2)							
FOR		NUMBER FILED		NUMBER EXTRA		RATE (\$)		FEE (\$)	
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A		N/A		N/A			
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))		N/A		N/A		N/A			
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A		N/A		N/A			
TOTAL CLAIMS (37 CFR 1.16(j))		minus 20 =		*		X \$ =			
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 =		*		X \$ =			
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).							
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))									
* If the difference in column 1 is less than zero, enter "0" in column 2.						TOTAL			
APPLICATION AS AMENDED – PART II									
(Column 1)		(Column 2)		(Column 3)					
AMENDMENT	06/03/2016	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 19	Minus	** 23	= 0	X \$80 =		0	
	Independent (37 CFR 1.16(h))	* 1	Minus	*** 5	= 0	X \$420 =		0	
	☐ Application Size Fee (37 CFR 1.16(s))								
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
TOTAL ADD'L FEE						0			
(Column 1)		(Column 2)		(Column 3)					
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =			
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =			
	☐ Application Size Fee (37 CFR 1.16(s))								
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
TOTAL ADD'L FEE									
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.									

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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Address: COMMISSIONER FOR PATENTS
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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/555,102	11/26/2014	Yong Qin Chen	BECC.P0002US.CIP(12US0040	4589
129381 7590 06/27/2016 NORTON ROSE FULBRIGHT US LLP - BCI 98 San Jacinto Blvd., Suite 1100 Austin, TX 78701			EXAMINER VU, MINDY D	
			ART UNIT 2884	PAPER NUMBER
			NOTIFICATION DATE 06/27/2016	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

aoipdocket@nortonrosefulbright.com
PatentDocket@Beckman.com

Office Action Summary	Application No. 14/555,102	Applicant(s) CHEN, YONG QIN	
	Examiner MINDY VU	Art Unit 2884	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06/03/16.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) ☒ Claim(s) 364-382 is/are pending in the application.
5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 364-382 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 11/26/14 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some** c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
Paper No(s)/Mail Date 06/05/15, 06/03/16
- 3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 4) ☐ Other: ____.

DETAILED ACTION

The present application is being examined under the pre-AIA first to invent provisions.

Election/Restrictions

Claims 383-386 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on June 03, 2016.

Claims 383-386 are canceled in the reply filed on June 03, 2016.

Information Disclosure Statement

Where the IDS citations are submitted but not described, the examiner is only responsible for cursorily reviewing the references. The initials of the examiner on the PTO-1449 indicate only that degree of review unless the reference is either applied against the claims, or discussed by the examiner as pertinent art of interest, in a subsequent office action. See Guidelines for Reexamination of Cases in View of *In re Portola Packaging, Inc.*, 110 F.3d 786, 42 USPQ2d 1295 (Fed. Cir. 1997), 64 FR at 15347, 1223 Off. Gaz. Pat. Office at 125 (response to comment 6). Consideration by the examiner of the information submitted in an IDS means that the examiner will consider the documents in the same manner as other documents in Office search files are considered by the examiner while conducting a search of the prior art in a proper field of search. The initials of the examiner placed adjacent to the citations on the PTO-1449 or PTO/SB/08A and 08B or its equivalent mean that the information has been considered by the examiner to the extent noted above. MPEP § 609 (Eighth Edition, August 2001).

The examiner notes that due to the unusually large number of references cited, and the absence of any description of the relevance of the references, it should be assumed that only the most cursory review of the cited documents consistent with these guidelines has been performed. If applicant is aware of any information that might be of particular relevance, it should be pointed out in order to insure a higher degree of consideration.

Claim Rejections - 35 USC § 103

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 364 and 366-379 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Oostman, Jr. et al. (US 6,683,314, hereafter Oostman) in view of Capewell et al. (US 2004/0165828, hereafter Capewell).

With respect to independent Claim 364, Oostman discloses a flow cytometer (column 9 lines 4-5, fig. 15) having a wavelength division multiplexer (WDM) (col. 6 lines 40-65, fig. 5), the WDM comprising:

an extended light source providing light that forms an object (fig. 5, optical fiber 123);

a collimating optical element that captures light from the extended light source and projects a magnified image of the object as a first light beam (fig. 5, collimating lens 145); and

a first focusing optical element configured to focus the first light beam to a first semiconductor detector (fig. 5, focusing element 158).

Oostman does not explicitly disclose the focusing optical element configured to focus the first light beam to a size smaller than the object of the extended light source to a first semiconductor detector. In a similar field of endeavor, Capewell discloses an optical system comprising a WDM having a paraxial optical assembly and an aspheric lens to focus the first beam on the detector [0027,0039] (figs. 5a, 5b, 6). Moreover, Capewell discloses that with the paraxial optical assembly, the size of the focused light beam can be minimized in order to maximize the tolerance to detector misalignment [0027, 0038]. In particular, with the WDM of Capewell, it is possible to de-magnify the image of the object of the extended light source on the photodetector. In view of this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the focusing element of Oostman to be able to focus to a size smaller than the object of the extended light source in view of increasing the tolerance to detector misalignment.

With respect to Claim 366, Oostman discloses an image relay optical element (beam splitting element 151) arranged to receive a color band of interest of the first light beam, the image relay optical element (1511) configured to project a second image as a

second light beam, wherein the second light beam is substantially a unit magnification of the first light beam (fig. 5, col. 6 lines 40-65).

With respect to Claim 367, Oostman discloses the image relay optical element is one of a refractive optical device and a concave mirror (col. 11 lines 1-3).

With respect to Claim 368, Oostman discloses the image relay optical element is a concave mirror but does not explicitly disclose a radius of curvature approximately equal to the distance between the collimating optical element and the magnified image projected thereby. However, it is within the ordinary skill of one in the art to choose any suitable size for the intended application. Therefore, it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to adapt the recited ranges in view of the feature is merely a variation in design and the results would have been predictable.

With respect to Claim 369, Oostman discloses a second focusing optical element configured to focus the second light beam to a second semiconductor detector (fig. 5). Oostman does not explicitly disclose a second focusing optical element configured to focus the second light beam to a size smaller than the object of the extended light source to a second semiconductor detector. Capewell discloses an optical system comprising a WDM having a paraxial optical assembly and an aspheric lens to focus the first beam on the detector [0027, 0039] (figs. 5a, 5b, 6). Moreover, Capewell discloses that with the paraxial optical assembly, the size of the focused light beam can be minimized in order to maximize the tolerance to detector misalignment [0027, 0038]. In particular, with the WDM of Capewell, it is possible to de-magnify the image of the

object of the extended light source on the photodetector. In view of this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the focusing element of Oostman to be able to focus to a size smaller than the object of the extended light source in view of increasing the tolerance to detector misalignment.

With respect to Claim 370, Oostman discloses the optical path length between the collimating optical element and the first focusing optical element is substantially the same as the optical path length between the image relay optical element and the second focusing optical element (fig. 5).

With respect to Claim 371, Oostman discloses the image relay optical element is a concave shaped dichroic filter (col. 6 lines 45-46).

With respect to Claim 372, Oostman discloses a dichroic filter (151) disposed between the collimating optical element and the first focusing optical element (fig. 5, col. 6 lines 40-50).

With respect to Claim 373, Oostman discloses the optical path length between the collimating optical element and the first focusing optical element is substantially the same as the optical path length between the collimating optical element, the dichroic filter, and the image relay optical element (fig. 5).

With respect to Claim 374, Oostman discloses the dichroic filter is bonded to a filter holder such that a coated filter surface of the dichroic filter is indented and optically parallel to a reference surface of the filter holder (fig. 7, col. 8 lines 33-37).

With respect to Claim 375, Oostman discloses the reference surface of the filter holder rests against an optically flat surface of a reference block included in the WDM, thereby providing consistent optical alignment when installing the dichroic filter into the WDM (fig. 7).

With respect to Claim 376, Oostman discloses the object is formed by one of light passing through a pinhole and light emitted from a facet of a multimode optical fiber (fig. 5).

With respect to Claim 377, Oostman discloses the first light beam focused by the first focusing optical element is approximately the same size as the effective size of the collimating optical element (col. 6 lines 40-50)

With respect to Claim 378, Oostman discloses the size of the magnified image of the object is less than approximately ten times the size of the object of the extended light source (co. 10 lines 48-50).

With respect to Claim 379, Oostman discloses a composite microscope objective to direct light emitted by a particle in a flow channel in a viewing zone of the composite microscope to the extended light source (col. 5 lines 33-38), the particle illuminated by an illumination light, the composite microscope objective including, a spherical mirror located on a first side of the viewing zone, the spherical mirror configured to reflect the emitted light, and. an aberration corrector plate located on a second side of the viewing zone opposite the first side, the aberration corrector plate configured to reduce optical aberrations in the reflected light caused by the spherical mirror (col. 10 line 61- col. 11 line 20).

Claim 365 is rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Oostman and Capewell as applied to claim 364 above, and further in view of Flanders (US 2002/0067895).

With respect to Claim 365, Oostman as modified by Capewell does not explicitly disclose wherein the first focusing optical element is configured to focus the first light beam to a size smaller than 1 mm in diameter. However, focusing the light to a spot of less than 1mm is considered to be easily made by a skilled person by simply choosing the appropriate lens. In addition, Flanders discloses focusing to spot in the recited range is known [0037]. In view of this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to focus the beam to a size smaller than 1 mm and the claim would have been obvious because a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art.

Claim 380 is rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Oostman and Capewell as applied to claim 379 above, and further in view of Heuer, Jr. et al. (US 3,199,341, hereafter Heuer).

With respect to Claim 380, Oostman as modified by Capewell discloses a fluidic system but does not disclose a T-coupling arrangement configured to receive the liquid sheath from a reservoir and to direct a first fraction of the liquid sheath back to the reservoir via a bypass conduit and a second fraction of the liquid sheath to the flow channel. In a similar field of endeavor, Heuer discloses such arrangement is known (fig.

1). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to include the recited arrangement and the claim would have been obvious because a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art.

Claim 381 is rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Oostman and Capewell as applied to claim 379 above, and further in view of Minarik et al. (US 5,257,917).

With respect to Claim 381, Oostman as modified by Capewell discloses the flow cytometer but does not disclose a peristaltic pump configured to supply liquid sample to the flow channel, the peristaltic pump including a pump housing having a arcuate curved track formed therein, a plurality of rollers, and a compressible tube sandwiched between the rollers and the arcuate curved track, the arcuate curved track further including at least one recess section located between at least two pumping sections along the arcuate curved track. In a similar field of endeavor, Minarik discloses such peristaltic pump is known (figs. 1-4, col. 3 line 42-col. 5 line 30). In view of this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to include the recited peristaltic pump as taught by Minarik in view of pumping fluids through tubing without any contact between pump components and the fluid being pumped.

Claim 382 is rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Oostman and Capewell as applied to claim 379 above, and further in view of Chu (US 7,876,436).

With respect to Claim 382, Oostman as modified by Capewell discloses the illumination light but omits a beam compressing optical element configured to compress the illumination light along an axis perpendicular to the direction of the flow channel. In a similar field of endeavor, Chu discloses the benefit of using two cylindrical lenses capable of compressing and magnifying the light beam in X direction enable the size of the irradiated spot (figs. 5a-5b, col. 4 lines 1-3, col. 6 lines 43-50). In view of this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to include a beam compressing optical element in view of enable the size of the irradiated spot.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MINDY VU whose telephone number is (571)272-8539. The examiner can normally be reached on M-F 9am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DAVID PORTA/
Supervisory Patent Examiner, Art
Unit 2884

/M. V./
Examiner, Art Unit 2884

Notice of References Cited	Application/Control No. 14/555,102	Applicant(s)/Patent Under Reexamination CHEN, YONG QIN	
	Examiner MINDY VU	Art Unit 2884	Page 1 of 1

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Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Page 1 of 1

Form PTO-1449 (modified)		Atty. Docket No.: BECC.P0002US.CIP	Serial No.: 14/555,102
List of Patents and Publications for Applicant's INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Applicant: Iris International, Inc.	
		Filing Date: November 26, 2014	Group: 2884
U.S. Patent Documents <i>See Page 1</i>	Foreign Patent Documents <i>none</i>	Other Art <i>See Page 1</i>	

U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A167	2004165828	8/26/04	Capewell et al.	385	47	3/1/04
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Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

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	C6	Extended European Search Report for EP 13796734.5, mailed March 18, 2016.
	C7	Goda et al., "Serial time-encoded amplified imaging for observation of fast dynamic phenomena", <i>Nature</i> 458:1145-1149, 2009.

42271887.1

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SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.		
14/555,102	11/26/2014	250	2884	BECC.P0002US.CIP(12US0040		
RULE						
APPLICANTS IRIS INTERNATIONAL, INC., Chatsworth, CA; INVENTORS Yong Qin Chen, San Jose, CA; ** CONTINUING DATA ***** This appln claims benefit of 61/911,859 12/04/2013 and is a CIP of PCT/US2013/043453 05/30/2013 which claims benefit of 61/653,245 05/30/2012 and claims benefit of 61/653,328 05/30/2012 and claims benefit of 61/715,819 10/18/2012 and claims benefit of 61/715,836 10/19/2012 and claims benefit of 61/816,819 04/29/2013 ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 01/22/2015						
Foreign Priority claimed ☐ Yes ☒ No 35 USC 119(a-d) conditions met ☐ Yes ☒ No Verified and Acknowledged <u>/MINDY D VU/</u> Examiner's Signature		☐ Met after Allowance Initials	STATE OR COUNTRY CA	SHEETS DRAWINGS 35	TOTAL CLAIMS 23	INDEPENDENT CLAIMS 5
ADDRESS NORTON ROSE FULBRIGHT US LLP - BCI 98 San Jacinto Blvd., Suite 1100 Austin, TX 78701 UNITED STATES						
TITLE FLOW CYTOMETER						
FILING FEE RECEIVED 3220	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:			☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit		

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
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L8	33	coupl\$3 same reservoir same liquid same sheath same conduit	US-PGPUB; USPAT; USOCR	OR	ON	2016/06/21 12:58
L9	325501	flow near2 (cell cytomet\$3 channel)	US-PGPUB; USPAT; USOCR	OR	ON	2016/06/21 12:59
L10	4	L9 and 8	US-PGPUB; USPAT; USOCR	OR	ON	2016/06/21 12:59
L11	4	coupl\$3 same reservoir same liquid same sheath same bypass	US-PGPUB; USPAT; USOCR	OR	ON	2016/06/21 13:03
L12	227	peristaltic and pump and liquid and arcuate and curv\$3 and roller and compress\$4 and recess\$3	US-PGPUB; USPAT; USOCR	OR	ON	2016/06/21 13:20
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S19	276	g02b6/29365.cpc.	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2016/06/20 16:51

			EPO; JPO; DERWENT; IBM_TDB			
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S21	7760	(g01n15/1434 g01n15/1436 g01n15/1459).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/06/20 17:24
S22	675	g01n2015/1452.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/06/20 17:25
S23	1	(spherical\$2 near5 mirror) and (aberrat\$3 near2 plate) and microscope and (flow near6 (cell cytomet\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/06/20 23:27
S24	50	(spherical\$2 near5 mirror) and aberrat\$3 and microscope and (flow near6 (cell cytomet\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/06/20 23:28
S25	3573	liquid near3 sheath	US-PGPUB; USPAT; USOCR	OR	ON	2016/06/21 00:00
S26	325323	flow near2 (cell cytomet\$3 channel)	US-PGPUB; USPAT; USOCR	OR	ON	2016/06/21 00:01
S27	1078	S25 and S26	US-PGPUB; USPAT; USOCR	OR	ON	2016/06/21 00:01
S28	174	("20020141902" "20060292021" "4073574" "4244045" "4727020" "5230614" "5583683" "5615200" "5788927" "6870976" "6975400" "7430048" "7450229" "7952981" "8009189" "8436371" "6159686" "20050084402" "20060245964" "20130020498" "3946239" "3989381" "4189236" "4576556" "4745285" "4950136" "6200101" "6683314" "6941047" "7260328" "7268953" "7381565" "7385682" "8157547" "8337096" "8488244" "20040165828" "2385495" "2764147"	US-PGPUB; USPAT; USOCR	OR	ON	2016/06/21 00:01

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S29	26	S27 and S28	US-PGPUB; USPAT; USOCR	OR	ON	2016/06/21 00:01

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Form PTO-1449 (modified)		Atty. Docket No.: BECC.P0002US.CIP	Serial No.: 14/555,102
List of Patents and Publications for Applicant's INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Applicant: Yong Qin Chen	
		Filing Date: November 26, 2014	Group: 2884
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U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A1	20020141902	10/3/02	Ozasa et al.	422	82.09	3/27/02
	A2	20030142720	7/31/03	Bradburn et al.	372	108	5/24/02
	A3	20040218184	11/4/04	Jorengson et al.	356	419	2/27/04
	A4	20050084402	4/21/05	Vanek	417	477.3	10/27/04
	A5	20060221325	10/5/06	Wells	356	73	3/30/05
	A6	20060245964	11/2/06	Koslov	417	477.1	6/29/06
	A7	20060256335	11/16/06	Chen	356	369	5/3/06
	A8	20060292021	12/28/06	Tu	417	477.1	11/7/02
	A9	20070124947	6/7/07	Munroe et al.	33	286	10/25/06
	A10	20080024758	1/31/08	Tabata	356	39	7/26/07
	A11	20080241911	10/2/08	Ueno et al.	435	287.1	3/28/08
	A12	20090091746	4/9/09	Fukuda et al.	356	73	10/1/08
	A13	20090190128	7/30/09	Cerni et al.	356	336	11/24/08
	A14	20110014075	1/20/11	Reif et al.	417	477.12	7/1/10
	A15	20110032522	2/10/11	Graves et al.	356	338	10/12/10
	A16	20120156074	6/21/12	Kusch et al.	417	477.3	2/4/10
	A17	20120274925	11/1/12	Chen et al.	356	73	11/1/12
	A18	20120281204	11/8/12	Hoshishima et al.	356	72	1/13/11
	A19	20120282126	11/8/12	Brandt et al.	417	477.9	11/4/10
	A20	20120287419	11/15/12	Sharpe et al.	356	51	5/11/12
	A21	20130010181	1/10/13	Baba	348	360	3/14/11
	A22	20130020498	1/24/13	Ebi et al.	250	435	7/18/12
	A23	20130050782	2/28/13	Heng et al.	358	494	2/17/12

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INFORMATION DISCLOSURE STATEMENT — PTO-1449 (MODIFIED)

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /M.D.V/

Form PTO-1449 (modified)		Atty. Docket No.: BECC.P0002US.CIP	Serial No.: 14/555,102
List of Patents and Publications for Applicant's INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Applicant: Yong Qin Chen	
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Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A24	20130070243	3/21/13	Goehde	356	338	11/9/12
	A25	20130094102	4/18/13	Baba	359	784	7/13/10
	A26	20130204538	8/8/13	Rich	702	21	10/25/11
	A27	2385495	9/25/45	Brian	250	487.1	8/21/43
	A28	2669709	2/16/54	Glancy et al.	348	784	10/19/60
	A29	2764147	9/25/56	Brunner	126	247	2/23/51
	A30	315667	4/14/85	Serdinko	417	475	10/20/84
	A31	3411293	11/19/68	Akins	60	454	10/20/66
	A32	3542491	11/24/70	Newman	417	295	5/27/69
	A33	3661460	5/9/72	Elking et al.	356	36	8/28/70
	A34	3726613	4/10/73	von Casimir	417	477.1	10/12/70
	A35	3826593	7/30/74	von Casimir	417	53	5/11/73
	A36	3873204	3/25/75	Friedman et al.	356	39	11/29/72
	A37	3946239	3/23/76	Salzman et al.	250	461.2	1/24/75
	A38	3953727	4/27/76	d'Auria et al.	398	88	1/17/75
	A39	3989381	11/2/76	Fulwyler	356	39	5/5/75
	A40	4073574	2/14/78	Clarke et al.	359	728	10/1/76
	A41	4188543	2/12/80	Brunsting et al.	250	458.1	4/24/78
	A42	4189236	2/19/80	Hogg et al.	356	317	3/20/78
	A43	4244045	1/6/81	Nosu et al.	398	86	1/31/79
	A44	4482994	11/13/84	Ishikawa	398	86	6/7/82
	A45	4515274	5/7/85	Hollinger et al.	209	3.1	12/2/81
	A46	4564342	1/14/86	Weber et al.	417	477.6	7/24/84

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	A47	4576556	3/18/86	Thompson	417	477.12	4/2/80
	A48	4623225	11/18/86	Forkner	359	669	6/29/84
	A49	4727020	2/23/88	Recktenwald	435	6.11	2/25/85
	A50	4745285	5/17/88	Recktenwald et al.	250	458.1	8/21/86
	A51	4778253	10/18/88	Siga et al.	359	819	3/26/86
	A52	4834630	5/30/89	Godwin	417	475	2/16/88
	A53	4871249	10/3/89	Watson	356	73	7/1/88
	A54	4920275	4/24/90	Itoh	250	574	12/30/88
	A55	4950136	8/21/90	Haas et al.	417	477.7	8/14/89
	A56	4976590	12/11/90	Baldwin	417	53	6/8/88
	A57	4997275	3/5/91	Gaucher et al.	356	72	9/23/88
	A58	5050963	9/24/91	Murakami	359	808	10/9/90
	A59	5142462	8/25/92	Kashima	362	268	4/27/90
	A60	5177641	1/5/93	Kobayashi et al.	359	820	10/30/90
	A61	5230614	7/27/93	Zanger et al.	417	477.9	6/3/92
	A62	5245318	9/14/93	Tohge et al.	340	611	12/15/92
	A63	5251060	10/5/93	Uenishi et al.	359	328	9/30/92
	A64	5299066	3/29/94	Rombult	359	819	8/12/92
	A65	5317162	5/31/94	Pinsky et al.	250	461.2	9/9/92
	A66	5369476	11/29/94	Bowers et al.	399	49	1/28/92
	A67	5373395	12/13/94	Adachi	359	652	5/10/93
	A68	5396487	3/7/95	Abe et al.	359	819	10/31/91
	A69	5467225	11/14/95	Manabe	359	661	11/1/94

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	A70	5470211	11/28/95	Knott et al.	417	477.9	8/11/94
	A71	5475210	12/12/95	Taguchi et al.	250	205	6/8/93
	A72	5548395	8/20/96	Kosaka	356	73	8/31/92
	A73	5583683	12/10/96	Scobey	398	79	6/15/95
	A74	5615200	3/25/97	Hoshino et al.	369	112.04	4/14/95
	A75	5746585	5/5/98	McDunn et al.	417	477.11	12/31/96
	A76	5748372	5/5/98	Kitagawa	359	565	4/17/96
	A77	5777674	7/7/98	Ohmuro	348	338	4/10/95
	A78	5781351	7/14/98	Murakami et al.	359	808	5/31/96
	A79	5786915	7/28/98	Scobey	398	82	10/22/96
	A80	5788927	8/4/98	Farrell et al.	422	63	6/30/96
	A81	5805363	9/8/98	Okuda et al.	359	819	7/17/97
	A82	5850292	12/15/98	Braun	356	419	11/13/97
	A83	5915925	6/29/99	North Jr.	417	36	1/7/97
	A84	5971713	10/26/99	North Jr.	417	36	12/29/98
	A85	6008920	12/28/99	Hendrix	398	79	3/11/98
	A86	6017194	1/25/00	North Jr.	417	36	12/31/98
	A87	6102678	8/15/00	Peclat	417	477.7	4/3/98
	A88	6135734	10/24/00	Isozumi et al.	417	542	9/23/98
	A89	6200101	3/13/01	North Jr.	417	36	7/6/99
	A90	6252719	6/26/01	Eichenbaum	359	634	3/19/99
	A91	6315952	11/13/01	Sklar et al.	422	63	6/10/99
	A92	6510007	1/21/03	Blasenheim	359	659	8/21/01

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	A93	6542306	4/1/03	Goodman	359	634	3/16/01
	A94	6572255	6/3/03	Husher	366	132	4/24/01
	A95	6608682	8/19/03	Ortyn et al.	356	419	10/12/01
	A96	6618143	9/9/03	Roche et al.	356	339	10/2/01
	A97	6638481	10/28/03	Sklar et al.	422	63	9/19/01
	A98	6647175	11/11/03	LoRegio et al.	385	24	10/8/01
	A99	6683314	1/27/04	Oostman Jr. et al.	250	461.2	8/28/01
	A100	6713019	3/30/04	Ozasa et al.	422	82.09	3/27/02
	A101	6748133	6/8/04	Liu et al.	385	24	11/26/01
	A102	6767188	7/27/04	Vrane et al.	417	40	8/15/02
	A103	6768593	7/27/04	Jutamulia	359	641	7/24/03
	A104	6788409	9/7/04	Goodwin	356	339	9/3/02
	A105	6794671	9/21/04	Nicoli et al.	250	574	7/17/02
	A106	6813017	11/2/04	Hoffman et al.	356	317	10/19/00
	A107	6839367	1/4/05	Nagamatsu et al.	372	34	3/16/01
	A108	6870679	3/22/05	Randall et al.	359	580	6/10/02
	A109	6870976	3/22/05	Chen et al.	385	14	3/13/01
	A110	6897954	5/24/05	Bishop et al.	356	317	12/20/02
	A111	6941047	9/6/05	Capewell et al.	385	47	3/1/04
	A112	6954722	10/11/05	Parks et al.	702	194	10/17/03
	A113	6975400	12/13/05	Ortyn et al.	356	419	7/28/03
	A114	7038778	5/2/06	Yamauchi	356	419	8/13/02
	A115	7072540	7/4/06	Szapiel et al.	385	24	4/22/03

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	A116	7110192	9/19/06	Sauter et al.	359	754	1/12/05
	A117	7113266	9/26/06	Wells	356	73	3/30/05
	A118	7127356	10/24/06	Nicoli et al.	702	26	5/18/04
	A119	7129505	10/31/06	Oostman Jr. et al.	250	458.1	10/17/03
	A120	7212343	5/1/07	He et al.	359	618	7/11/03
	A121	7260328	8/21/07	Kropp	398	82	2/24/03
	A122	7262838	8/28/07	Fritz	356	73	1/16/04
	A123	7268953	9/11/07	Matthae et al.	359	656	6/7/06
	A124	7305018	12/4/07	Otoma	372	50.1	12/29/05
	A125	7381565	6/3/08	Kurabayashi et al.	436	63	3/20/06
	A126	7385682	6/10/08	Chu et al.	356	73	9/7/06
	A127	7430048	9/30/08	Reel et al.	356	432	2/16/06
	A128	7450229	11/11/08	Ortyn et al.	356	326	5/4/05
	A129	7453915	11/18/08	Imai	372	50.1	12/5/06
	A130	7456960	11/25/08	Cerni et al.	356	336	11/15/05
	A131	7496463	2/24/09	Nicoli et al.	702	104	9/12/06
	A132	7505131	3/17/09	Roth	356	317	3/6/08
	A133	7507588	3/24/09	Mehrpouyan et al.	436	518	4/14/06
	A134	7561267	7/14/09	Luo et al.	356	336	12/22/06
	A135	7580120	8/25/09	Hamada et al.	356	73	4/6/06
	A136	7623243	11/24/09	Kato	356	419	9/13/04
	A137	7645127	1/12/10	Hagen et al.	417	477.12	6/29/06
	A138	7668422	2/23/10	Kropp	385	47	3/12/04

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INFORMATION DISCLOSURE STATEMENT — PTO-1449 (MODIFIED)

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /M.D.V/

Form PTO-1449 (modified)		Atty. Docket No.: BECC.P0002US.CIP	Serial No.: 14/555,102
List of Patents and Publications for Applicant's INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Applicant: Yong Qin Chen	
		Filing Date: November 26, 2014	Group: 2884
U.S. Patent Documents See Page 1	Foreign Patent Documents See Page 9	Other Art See Page 10	

U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A139	7758324	6/20/10	Baumann et al.	417	477.2	5/12/05
	A140	7768120	8/3/10	Takashima	257	706	12/27/07
	A141	7781227	8/24/10	Mehrpouyan et al.	436	523	3/4/09
	A142	7787197	8/31/10	Chen	359	793	9/4/08
	A143	7835000	11/16/10	Graves et al.	356	338	11/3/06
	A144	7876436	1/25/11	Chu	356	338	10/31/07
	A145	7894047	2/22/11	Hamada et al.	356	39	7/24/09
	A146	7952981	3/31/11	Suzuki	369	121	10/23/08
	A147	7981661	7/19/11	Rich	435	286.5	4/17/07
	A148	8009189	8/30/11	Ortyn et al.	348	80	6/3/08
	A149	8049185	11/1/11	Hayashi et al.	250	459.1	2/4/09
	A150	8149525	4/3/12	Do	359	797	3/28/07
	A151	8157547	4/17/12	Vrielink	417	477.3	4/23/07
	A152	8187888	5/29/12	Rich	436	63	7/8/11
	A153	8213472	7/3/12	Hirai et al.	372	36	1/23/08
	A154	8229707	7/24/12	Olson et al.	702	189	7/4/11
	A155	8233146	7/31/12	Chen	356	246	1/5/10
	A156	8253938	8/28/12	Vacca et al.	356	337	5/26/11
	A157	8270098	9/18/12	Fukuta et al.	359	784	2/19/09
	A158	8284402	10/9/12	Frazier et al.	356	419	2/26/10
	A159	8337096	12/25/12	Shen et al.	385	89	11/30/09
	A160	8345237	1/1/13	Tsukii et al.	356	338	12/23/11
	A161	8405048	3/26/13	Hayashi	250	458.1	2/4/09

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INFORMATION DISCLOSURE STATEMENT — PTO-1449 (MODIFIED)

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Form PTO-1449 (modified)		Atty. Docket No.: BECC.P0002US.CIP	Serial No.: 14/555,102
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		Filing Date: November 26, 2014	Group: 2884
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U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A162	8432541	4/30/13	Rich	356	246	11/4/10
	A163	8436371	5/7/13	Medendorp Jr., et al.	257	88	5/24/07
	A164	8436993	5/7/13	Kaduchak et al.	356	337	2/3/12
	A165	8488244	7/16/13	Li et al.	359	618	2/17/11
	A166	8507279	8/13/13	Ball et al.	436	10	6/2/10

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INFORMATION DISCLOSURE STATEMENT — PTO-1449 (MODIFIED)

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Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Language
	B1	CN 102087198	6/8/11	China	Chinese (English abstract)
	B2	CN 102818794	12/12/12	China	Chinese (English abstract)
	B3	CN 102818795	12/12/12	China	Chinese (English abstract)
	B4	CN 102818796	12/12/12	China	Chinese (English abstract)
	B5	CN 201917509U	8/3/11	China	Chinese (English abstract)
	B6	CN 201936066U	8/17/11	China	Chinese (English abstract)
	B7	CN 201984209U	9/21/11	China	Chinese (English abstract)
	B8	EP 0889319	1/7/99	EPO	German (English abstract)
	B9	EP 1004907	4/22/09	EPO	English
	B10	EP 1953526	8/6/08	EPO	English
	B11	EP 2381475	3/4/15	EPO	English
	B12	EP 459764A2	12/4/91	EPO	English
	B13	EP 459764B1	12/11/96	EPO	English
	B14	EP 757346A1	2/5/97	EPO	English
	B15	EP 757346B1	11/14/01	EPO	English
	B16	EP 758755A2	2/19/97	EPO	English
	B17	JP 05333245	12/17/93	Japan	Japanese (English abstract)
	B18	JP 829726	2/2/96	Japan	Japanese (English translation)
	B19	WO 0057173	9/28/00	WIPO	English
	B20	WO 0127590	4/19/01	WIPO	English
	B21	WO 0140764	6/7/01	WIPO	English
	B22	WO 03012403	2/13/03	WIPO	French (English abstract)
	B23	WO 2005033654	4/14/05	WIPO	English
	B24	WO 2006013316	2/9/06	WIPO	English
	B25	WO 2009095358	8/6/09	WIPO	German (English abstract)
	B26	WO 2009098867	8/13/09	WIPO	Japanese (English abstract)

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Form PTO-1449 (modified)		Atty. Docket No.: BECC.P0002US.CIP	Serial No.: 14/555,102
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		Filing Date: November 26, 2014	Group: 2884
U.S. Patent Documents <i>See Page 1</i>	Foreign Patent Documents <i>See Page 9</i>	Other Art <i>See Page 10</i>	

Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Language
	B27	WO 2011026942	3/10/11	WIPO	English
	B28	WO 2012056217	5/3/12	WIPO	English
	B29	WO 2012177367	12/27/12	WIPO	English
	B30	WO 2013013229	1/24/13	WIPO	English
	B31	WO 2013093035	6/27/13	WIPO	English
	B32	WO 9307471	4/15/93	WIPO	English
	B33	WO 9316368	8/19/93	WIPO	English
	B34	WO 9429695	12/22/94	WIPO	English
	B35	WO 9714066A2	4/17/97	WIPO	English

Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C1	International Search Report and Written Opinion for PCT/US2013/043453 mailed December 20, 2013.
	C2	International Search Report and Written Opinion for PCT/US2014/067682 mailed April 9, 2015.
	C3	Brogioli et al., "Heterodyne near-field scattering," <i>Applied Physics Letters</i> 81(22):4109-4111, 2002.
	C4	Schmidt, B., "Ein lichtstarkes komafreies Spiegelsystem," <i>Mitteilungen der Haburger Sternwarte in Bergedorf</i> 7(36):15-17, 1932.
	C5	Smiley, C. H., "The Schmidt Camera." <i>Popular Astronomy</i> 44:415-421, 1936.

/MINDY D VU/

06/20/2016

41600224.1

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /M.D.V/

<i>Index of Claims</i> 	Application/Control No. 14555102	Applicant(s)/Patent Under Reexamination CHEN, YONG QIN
	Examiner MINDY VU	Art Unit 2884

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant		☐ CPA		☐ T.D.		☐ R.1.47			
CLAIM		DATE							
Final	Original	04/13/2016	06/20/2016						
	364	+	✓						
	365	+	✓						
	366	+	✓						
	367	+	✓						
	368	+	✓						
	369	+	✓						
	370	+	✓						
	371	+	✓						
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	377	+	✓						
	378	+	✓						
	379	+	✓						
	380	+	✓						
	381	+	✓						
	382	+	✓						
	383	+	-						
	384	+	-						
	385	+	-						
	386	+	-						

Search Notes 	Application/Control No. 14555102	Applicant(s)/Patent Under Reexamination CHEN, YONG QIN
	Examiner MINDY VU	Art Unit 2884

CPC- SEARCHED		
Symbol	Date	Examiner
G01N 21/64, 15/1434, 15/1436, 15/1459, 2015/1452	06/20/16	MV
G02B 6/26, 6/29365	06/20/16	MV

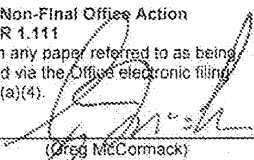
CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
Inventor name search	06/19/16	mv
EAST BRS - See search history printout	06/21/16	mv

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

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Amendment in Response to Non-Final Office Action
Under 37 CFR 1.111
I hereby certify that this paper (along with any paper referred to as being
attached or enclosed) is being transmitted via the Office electronic filing
system in accordance with 37 CFR § 1.6(a)(4).
Dated: October 27, 2016 Signature: 
(Greg McCormack)

Docket No.: BECC.P0002US.CIP/11412161
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Yong Qin Chen

Application No.: 14/555,102

Confirmation No.: 4589

Filed: November 26, 2014

Art Unit: 2884

For: FLOW CYTOMETER

Examiner: Vu, Mindy D.

AMENDMENT IN RESPONSE TO NON-FINAL OFFICE ACTION
UNDER 37 CFR 1.111

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Commissioner:

INTRODUCTORY COMMENTS

In response to the Office Action dated June 27, 2016, please amend the above-identified
U.S. patent application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2
of this paper.

Remarks/Arguments begin on page 6 of this paper.

AMENDMENT TO THE CLAIMS

The listing of claims will replace all prior versions, and listing of claims in the application.

1-363. (Canceled)

364. (Previously presented) A flow cytometer having a wavelength division multiplexer (WDM), the WDM comprising:
an extended light source providing light that forms an object;
a collimating optical element that captures light from the extended light source and projects a magnified image of the object as a first light beam; and
a first focusing optical element configured to focus the first light beam to a size smaller than the object of the extended light source to a first semiconductor detector.

365. (Previously presented) The flow cytometer of claim 364, wherein the first focusing optical element is configured to focus the first light beam to a size smaller than 1 mm in diameter.

366. (Previously presented) The flow cytometer of claim 364, further comprising an image relay optical element arranged to receive a color band of interest of the first light beam, the image relay optical element configured to project a second image as a second light beam, wherein the second light beam is substantially a unit magnification of the first light beam.

367. (Previously presented) The flow cytometer of claim 366, wherein the image relay optical element is one of a refractive optical device and a concave mirror.

368. (Previously presented) The flow cytometer of claim 366, wherein the image relay optical element is a concave mirror having a radius of curvature approximately equal to the distance between the collimating optical element and the magnified image projected thereby.

369. (Previously presented) The flow cytometer of claim 366, further comprising a second focusing optical element configured to focus the second light beam to a size smaller than the object of the extended light source to a second semiconductor detector.

370. (Previously presented) The flow cytometer of claim 369, wherein the optical path length between the collimating optical element and the first focusing optical element is substantially the same as the optical path length between the image relay optical element and the second focusing optical element.

371. (Previously presented) The flow cytometer of claim 366, wherein the image relay optical element is a concave shaped dichroic filter.

372. (Previously presented) The flow cytometer of claim 366, further comprising a dichroic filter disposed between the collimating optical element and the first focusing optical element.

373. (Previously presented) The flow cytometer of claim 372, wherein the optical path length between the collimating optical element and the first focusing optical element is substantially the same as the optical path length between the collimating optical element, the dichroic filter, and the image relay optical element.

374. (Previously presented) The flow cytometer of claim 372, wherein the dichroic filter is bonded to a filter holder such that a coated filter surface of the dichroic filter is indented and optically parallel to a reference surface of the filter holder.

375. (Previously presented) The flow cytometer of claim 374, wherein the reference surface of the filter holder rests against an optically flat surface of a reference block included in the WDM, thereby providing consistent optical alignment when installing the dichroic filter into the WDM.

376. (Previously presented) The flow cytometer of claim 364, wherein the object is formed by one of light passing through a pinhole and light emitted from a facet of a multimode optical fiber.

377. (Previously presented) The flow cytometer of claim 364, wherein the first light beam focused by the first focusing optical element is approximately the same size as the effective size of the collimating optical element.

378. (Previously presented) The flow cytometer of claim 364, wherein the size of the magnified image of the object is less than approximately ten times the size of the object of the extended light source.

379. (Previously presented) The flow cytometer of claim 364, further comprising a composite microscope objective to direct light emitted by a particle in a flow channel in a viewing zone of the composite microscope to the extended light source, the particle illuminated by an illumination light, the composite microscope objective including,

a spherical mirror located on a first side of the viewing zone, the spherical mirror configured to reflect the emitted light, and,

an aberration corrector plate located on a second side of the viewing zone opposite the first side, the aberration corrector plate configured to reduce optical aberrations in the reflected light caused by the spherical mirror.

380. (Previously presented) The flow cytometer of claim 379, further comprising a fluidic system configured to supply liquid sheath to the flow channel, the fluidic system having a T-coupling arrangement configured to receive the liquid sheath from a reservoir and to direct a first fraction of the liquid sheath back to the reservoir via a bypass conduit and a second fraction of the liquid sheath to the flow channel.

381. (Previously presented) The flow cytometer of claim 379, further comprising a peristaltic pump configured to supply liquid sample to the flow channel, the peristaltic pump

including a pump housing having a arcuate curved track formed therein, a plurality of rollers, and a compressible tube sandwiched between the rollers and the arcuate curved track, the arcuate curved track further including at least one recess section located between at least two pumping sections along the arcuate curved track.

382. (Previously presented) The flow cytometer of claim 379, further comprising a beam compressing optical element configured to compress the illumination light along an axis perpendicular to the direction of the flow channel.

383.-386. (Canceled)

387. (New) The flow cytometer of claim 364, wherein the extended light source has an etendue at least a hundred times greater than an etendue of a laser beam out of a single mode optical fiber.

REMARKS

I. GENERAL

Claims 364-382 are presently pending in the application. Claim 387 is newly added herein. Claims 1-363 and 383-386 were previously canceled. The issues in the current Office Action are as follows:

- Claims 364 and 366-379 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Oostman, Jr. et al., U.S. Patent No. 6,683,314 (hereinafter "*Oostman*") in view of Capewell et al., U.S. Publication No. 2004/0165828 (hereinafter "*Capewell*").
- Claim 365 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Oostman* and *Capewell* as applied to claim 364 above, and further in view of Flanders, U.S. Publication No. 2002/0067895 (hereinafter "*Flanders*").
- Claim 380 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Oostman* and *Capewell* as applied to claim 379 above, and further in view of Heuer, Jr. et al., U.S. Patent No. 3,199,341 (hereinafter "*Heuer*").
- Claim 381 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Oostman* and *Capewell* as applied to claim 379 above, and further in view of Minarik et al., U.S. Patent No. 5,257,917 (hereinafter "*Minarik*").
- Claim 382 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Oostman* and *Capewell* as applied to claim 379 above, and further in view of Chu, U.S. Patent No. 7,876,436 (hereinafter "*Chu*").

Applicant hereby traverses the rejections and requests reconsideration and withdrawal in light of the amendments and remarks contained herein.

II. CLAIM AMENDMENTS

Claim 387 has been newly added to recite that “the extended light source has an etendue at least a hundred times greater than an etendue of a laser beam out of a single mode optical fiber.” Support for these amendments is found at least on page 69, lines 1-5 of the originally filed specification (“specification”). No new matter is added.

III. CLAIM REJECTIONS

A. 35 U.S.C. § 103(a) Rejections (*Oostman* in view of *Capewell*)

Claims 364 and 366-379 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Oostman* in view of *Capewell*. To render a claim unpatentable under 35 U.S.C. § 103, all the claim limitations must be taught by the prior art, M.P.E.P. § 2143.03. Moreover, the Examiner must provide analysis supporting any rationale why a person skilled in the art would combine the prior art to arrive at the claimed invention, and “[such] analysis should be made explicit,” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 82 U.S.P.Q.2d 1385 (2007). The Examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness, M.P.E.P. § 2142; *In re Peehs*, 204 U.S.P.Q. 835, 837 (C.C.P.A. 1980).

1. Independent claim 364

Claim 364 recites that “a first focusing optical element configured to focus the first light beam to ***a size smaller than the object of the extended light source to a first semiconductor detector.***” (Emphasis added.) The Office Action admits that *Oostman* fails to teach these features, but offers *Capewell* to cure the deficiencies. See Office Action, on p. 4. Applicant respectfully asserts that a *prima facie* conclusion of obviousness has not been established because the Office Action has not established any explicit analysis supporting any rationale why the combination of *Oostman* with *Capewell* would be obvious to one of ordinary skill in the art.

Applicant respectfully asserts that the fluorescence detection instrument, as taught by *Oostman*, and the optical communication system, as taught by *Capewell*, are actually different kinds of optical systems with different sizes of light sources. *Oostman* teaches fluorescence detection instrument that includes collimating lens, beam splitting elements, dichroic mirrors,

and focusing elements to form a beam emitted from a light source, and a photomultiplier tube to detect the beam. *See Oostman*, at col. 6, lns. 40-49. In *Oostman*, the photomultiplier tube is used to detect light emitted from a pinhole or a multimode optical fiber (common light source of the detector) in fluorescence detection instrument, e.g., flow cytometer. The size of an object of such light source is usually measured in millimeters. *See specification*, on p. 69, lns. 19-22; *see also Oostman*, at col. 10, lns. 25-47. However, such light source has an etendue hundreds of times greater than that of a laser beam out of a single mode optical fiber, and, therefore, it is more difficult to focus a beam from such light source down to a small size. *See specification*, on p. 69, lns. 1-8. As such, a photomultiplier tube, as illustrated by *Oostman* in detail, instead of a semiconductor detector with a small active area, is normally used to detect light with greater etendue in fluorescence detection instrument in the prior art. *Id.*

On the contrary, *Capewell* teaches an optical communication system that includes multiple optical assemblies to collimate and redirect a beam emitted from a light source, and a detector to detect the beam. *See Capewell*, at ¶s [0002] and [0039]. In *Capewell*, the detector is used to detect light emitted from a point light source, such as a single mode optical fiber, in a WDM to be used with a communication system. *Id.*, at ¶ [0030]. The size of an object of such point light source is usually measured in micrometers. *See specification*, on p. 69, lns. 22-23; *see also Capewell*, at ¶ [0049]. As such, such point light source has much less etendue than a bigger light source. *See specification*, on p. 69, lns. 1-8.

From the foregoing, it is clear that *Oostman* and *Capewell* discuss different kinds of optical systems (fluorescence detection instrument v. optical communication system) with different sizes of light sources. The Office Action fails to provide any explicit analysis to support the combination of optical elements from different kinds of optical systems, as taught by *Oostman* and *Capewell*. For instance, the Office Action asserts that since *Capewell* has disclosed that the size of the focused light beam can be minimized in order to maximize the tolerance to detector misalignment, it would have been obvious to one of ordinary skill in the art to modify the focusing element of *Oostman* to be able to focus to a size smaller than the object of the extended light source. *See Office Action*, on p. 4. However, the Office Action fails to address *how* to modify a focusing element in *fluorescence detection instrument* with a focusing

element in an *optical communication system* to focus a beam to a size smaller than the object of the extended light source to a first semiconductor detector, as claimed. *See In re Kumar*, 418 F.3d 1361, 1369 (Fed. Cir. 2005) ("To render a later invention unpatentable for obviousness, the prior art must enable a person of ordinary skill in the field to make and use the later invention."). As discussed above, it is more difficult to focus a beam with greater etendue in fluorescence detection instrument than to focus a beam with less etendue in an optical communication system.

According to the above, a *prima facie* conclusion of obviousness has not been established. *Oostman* in view of *Capewell* fails to render claim 364 obvious. Hence, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. § 103(a) of claim 364.

2. Dependent claims 366-379

a. Claim 366

Claim 366 recites that "an image relay optical element arranged to receive a color band of interest of the first light beam, the image relay optical element configured to project a second image as a second light beam, wherein the second light beam is substantially a unit magnification of the first light beam." The Office Action asserts that *Oostman* has disclosed the above features. *See* Office Action, on ps. 4-5. In particular, the Office Action asserts that beam splitting element 151 in *Oostman* meets the image relay optical element as claimed. *Id.* Applicant respectfully disagrees with such assertion.

For example, *Oostman*'s beam splitting element 151 does ***not receive a color band of interest*** of the first light beam as the claimed image relay optical element does. Instead, *Oostman*'s beam splitting element 151 receives beam 147 output from a fiber ***in its entirety*** and splits beam 147 into beam 155 and beam 153. *See Oostman*, at col. 6, lns. 45-47 and 55-57. Further, the cited selections of *Oostman* do not teach or suggest the size of beam 147 received by beam splitting element 151, or beams 155 and 153 output from beam splitting element 151. In fact, controlling the beam size is important for a WDM. As specified in the specification, utilizing an image relay optical element to extend a collimated beam path without expanding the

beam's diameter can make such collimated beam to be easily focused down to a small spot. *See* specification, on p. 47, lns. 24-27. *Oostman* is wholly silent as to beam size control for an extended light path in a WDM. Therefore, *Oostman* fails to teach that "the second light beam is substantially a unit magnification of the first light beam," as recited by claim 364. *Capewell* is not offered to teach these features, nor does it. Therefore, *Oostman* in view of *Capewell* fails to teach or suggest that "an image relay optical element arranged to receive a color band of interest of the first light beam, the image relay optical element configured to project a second image as a second light beam, wherein the second light beam is substantially a unit magnification of the first light beam," as recited by claim 366.

Further, claim 366 depends from independent claim 364. Therefore, claim 366 includes all the features of its respective base claim. It is respectfully submitted that claim 366 is also allowable at least because of its dependence from claim 364 for the reasons discussed above. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. § 103(a) of claim 366.

b. Claim 367

Claim 367 recites that "the image relay optical element is one of a refractive optical device and a concave mirror." The Office Action asserts that *Oostman*, at col. 10, lns. 1-3, teaches these features. *See* Office Action, on p. 5. However, the cited selections of *Oostman* do not discuss the beam splitting element 151, which has been asserted by the Office Action to meet the image relay optical element as claimed. Instead, the lens combination as cited is used to magnify and view cellular material within a cytometry flow cell or cuvette. *Id.*, at col. 9, lns. 44-46. *Capewell* is not offered to teach these features of claim 367, nor does it. Therefore, *Oostman* in view of *Capewell* fails to teach or suggest that "wherein the image relay optical element is one of a refractive optical device and a concave mirror," as recited by claim 367.

Further, claim 367 depends from independent claim 364. Therefore, claim 367 includes all the features of its respective base claim. It is respectfully submitted that claim 367 is also allowable at least because of its dependence from claim 364 for the reasons discussed above.

Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. § 103(a) of claim 367.

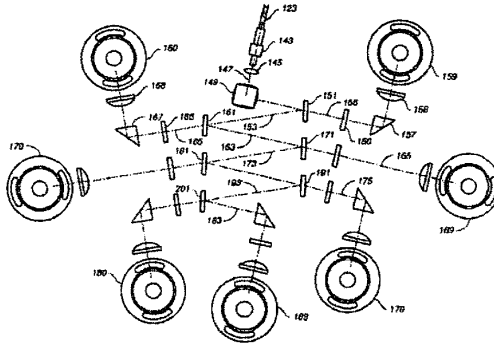
c. Claims 370 and 373

Claim 370 recites that “the optical path length between the collimating optical element and the first focusing optical element is substantially the same as the optical path length between the image relay optical element and the second focusing optical element.” Claim 373 recites that “the optical path length between the collimating optical element and the first focusing optical element is substantially the same as the optical path length between the collimating optical element, the dichroic filter, and the image relay optical element.” The Office Action asserts that *Oostman*, at FIG. 5, teaches these features of claims 370 and 373. Applicant respectfully disagrees.

In the Office Action, collimating lens 145, focusing element 158, and beam splitting element 151 in *Oostman* have been asserted to meet the claimed collimating optical element, first focusing optical element, and image relay optical element, respectively. *See* Office Action, on ps. 4-5. Accordingly, FIG. 5 of *Oostman* (as reproduced below) has clearly shown that the optical path length between collimating lens 145 and focusing element 158 is **shorter** than the optical path length between beam splitting element 151 and focusing element 168 or other focusing elements. *See Oostman*, at FIG. 5.

In the Office Action, collimating lens 145 and focusing element 158 in *Oostman* have been asserted to meet the claimed collimating optical element and first focusing optical element, respectively. *See* Office Action, on p. 4. Also, the Office Action asserts that beam splitting element (dichroic mirror) 151 meets both the claimed image replay optical element and dichroic filter. *Id.*, on ps. 4-5. Accordingly, FIG. 5 of *Oostman* has also clearly shown that the optical path length between collimating lens 145 and focusing element 158 is **longer** than the optical path length between collimating lens 145, dichroic mirror 151, and beam splitting element 151. *See Oostman*, at FIG. 5. In particular, beam splitting element (dichroic mirror) 151 is located in the middle of the optical path between collimating lens 145 and focusing element 158. *Id.*, at col.

6, Ins. 42-49.



Capewell is not offered to teach these features of claim 370 or 373, nor does it. Therefore, *Oostman* in view of *Capewell* fails to teach or suggest that “the optical path length between the collimating optical element and the first focusing optical element is substantially the same as the optical path length between the image relay optical element and the second focusing optical element,” as recited by claim 370. Also, *Oostman* in view of *Capewell* fails to teach or suggest that “the optical path length between the collimating optical element and the first focusing optical element is substantially the same as the optical path length between the collimating optical element, the dichroic filter, and the image relay optical element,” as recited by claim 373.

Further, claims 370 and 373 depend from independent claim 364. Therefore, claims 370 and 373 include all the features of its respective base claim. It is respectfully submitted that claims 370 and 373 are also allowable at least because of their dependence from claim 364 for the reasons discussed above. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. § 103(a) of claims 370 and 373.

d. Claims 374 and 375

Claim 374 recites that “the dichroic filter is bonded to a filter holder such that a coated filter surface of the dichroic filter is indented and optically parallel to a reference surface of the filter holder.” Claim 375 recites that “the reference surface of the filter holder rests against an optically flat surface of a reference block included in the WDM, thereby providing consistent

optical alignment when installing the dichroic filter into the WDM.” The Office Action asserts that *Oostman*, at FIG. 7 and col. 8, lns. 33-37, teaches these features of claims 374-375. *See* Office Action, on ps. 6-7. However, the cited selections of *Oostman* are wholly silent as to the structure/shape of the dichroic filter and alignment of the dichroic filter by an optically flat surface of a reference block as claimed. The cited selections of *Oostman*, at most, discuss that dichroic mirror holders are mounted in vertically removable housing so that dichroic mirrors may be interchanged or replaced. *See Oostman*, at FIG. 7 and col. 8, lns. 33-37.

Capewell is not offered to teach these features of claim 374 or 375, nor does it. Therefore, *Oostman* in view of *Capewell* fails to teach or suggest that “the dichroic filter is bonded to a filter holder such that a coated filter surface of the dichroic filter is indented and optically parallel to a reference surface of the filter holder,” as recited by claim 374, and “the reference surface of the filter holder rests against an optically flat surface of a reference block included in the WDM, thereby providing consistent optical alignment when installing the dichroic filter into the WDM,” as recited by claim 375.

Further, claims 374-375 depend from independent claim 364. Therefore, claims 374-375 include all the features of its respective base claim. It is respectfully submitted that claims 374-375 are also allowable at least because of their dependence from claim 364 for the reasons discussed above. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. § 103(a) of claims 374-375.

e. Claim 377

Claim 377 recites that “the first light beam focused by the first focusing optical element is approximately the same size as the effective size of the collimating optical element.” The Office Action asserts that *Oostman*, col. 6, lns. 40-50, teaches these features of claim 377. *See* Office Action, on p. 7. However, the cited selections of *Oostman* are wholly silent as to the size of the first light beam focused by focusing element 158 and the size of collimating element 151. On the contrary, as discussed in the specification, the above features can advantageously keep the beam of light propagating between the collimating optical element and the first focusing

optical element collimated. *See* specification, on p. 70, lns. 1-4. *Capewell* is not offered to teach these features of claim 377, nor does it. Therefore, *Oostman* in view of *Capewell* fails to teach or suggest that “the first light beam focused by the first focusing optical element is approximately the same size as the effective size of the collimating optical element,” as recited by claim 377.

Further, claim 377 depends from independent claim 364. Therefore, claim 377 includes all the features of its respective base claim. It is respectfully submitted that claim 377 is also allowable at least because of its dependence from claim 364 for the reasons discussed above. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. § 103(a) of claim 377.

f. Claim 379

Claim 379 recites:

comprising a composite microscope objective to direct light emitted by a particle in a flow channel in a viewing zone of the composite microscope *to the extended light source* . . . the composite microscope objective including,

a spherical mirror located *on a first side of the viewing zone* . . .
and an aberration corrector plate located *on a second side of the viewing zone opposite the first side*.

(Emphasis added.) The Office Action asserts that *Oostman*, at col. 5, lns. 33-38 and col. 10, ln. 61 to col. 11, ln. 20, teaches these features of claim 379. *See* Office Action, on p. 7. However, *Oostman*, at col. 5, lns. 33-38, actually discusses that multiple beams from multiple lasers can be *directed toward* flow stream for illuminating the stream, instead of light *emitted from a flow channel* to be directed to the extended light source as claimed. *See Oostman*, at col. 5, lns. 33-38. Further, *Oostman*, at col. 10, ln. 61 to col. 11, ln. 20, discusses lens combination located on *one side* of flow cell/cuvette 103. *Id*, at col. 10, ln. 61 to col. 11, ln. 20 and FIG. 15. *Capewell* is not offered to teach these features of claim 379, nor does it. Therefore, *Oostman* in view of *Capewell* fails to teach or suggest the above features of claim 379.

Further, claim 379 depends from independent claim 364. Therefore, claim 379 includes all the features of its respective base claim. It is respectfully submitted that claim 379 is also allowable at least because of their dependence from claim 364 for the reasons discussed above. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. § 103(a) of claim 379.

g. Claims 368-369, 371-372, 376, and 378

Claims 368-369, 371-372, 376, and 378 depend from independent claim 364. Each dependent claim includes all the features of its respective base claim. It is respectfully submitted that dependent claims 368-369, 371-372, 376, and 378 are allowable at least because of its dependence from claim 364 for the reasons discussed above. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. § 103(a) of claims 368-369, 371-372, 376, and 378.

B. 35 U.S.C. § 103(a) Rejections (Oostman and Capewell in view of Flanders)

Claim 365 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Oostman* and *Capewell* as applied to claim 364 above, and further in view of *Flanders*.

Claim 365 recites that “the first focusing optical element is configured to focus the first light beam to a size smaller than 1 mm in diameter.” The Office Action admits that *Oostman* in view of *Capewell* fails to teach these features of claim 365, but offers *Flanders*, at paragraph [0037], to cure the deficiencies. See Office Action, on p. 8. However, the cited selections of *Flanders* merely discuss that focusing lens 60 can focus to a spot smaller than 50µm. See *Flanders*, at ¶ [0037]. But such focusing lens 60 in *Flanders* is not part of a WDM device. Focusing lens 60 is merely used with a WDM device. *Id.* *Flanders*, at most, suggests that the size of *input beam* of WDM is smaller than 50µm. *Id.* None of *Oostman*, *Capewell*, and *Flanders* teach or suggest a focusing element *in a WDM* focusing to a size smaller than 1mm in diameter as claimed. Therefore, claim 365 is allowable over *Oostman*, *Capewell*, *Flanders*, or any combination thereof.

Also, claim 365 depends from independent claim 364, and thus, includes every feature of its base claim. Claim 364 has been shown above to be patentable over *Oostman* in view of *Capewell*. The tertiary reference *Flanders* introduced in the 35 U.S.C. § 103 rejection of claim 365 is not relied upon to cure the above-identified deficiencies in the foregoing reference, nor does it. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. § 103(a) of claim 365.

C. 35 U.S.C. § 103(a) Rejections (Oostman and Capewell in view of Heuer)

Claim 380 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Oostman* and *Capewell* as applied to claim 379 above, and further in view of *Heuer*.

Claim 380 depends from independent claim 364, and thus, includes every feature of its base claims. Claim 364 has been shown above to be patentable over *Oostman* in view of *Capewell*. The tertiary reference *Heuer* introduced in the 35 U.S.C. § 103 rejection of claim 380 is not relied upon to cure the above-identified deficiencies in the foregoing reference, nor does it. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. § 103(a) of claim 380.

D. 35 U.S.C. § 103(a) Rejections (Oostman and Capewell in view of Minarik)

Claim 381 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Oostman* and *Capewell* as applied to claim 379 above, and further in view of *Minarik*.

Claim 381 depends from independent claim 364, and thus, includes every feature of its base claims. Claim 364 has been shown above to be patentable over *Oostman* in view of *Capewell*. The tertiary reference *Minarik* introduced in the 35 U.S.C. § 103 rejection of claim 381 is not relied upon to cure the above-identified deficiencies in the foregoing reference, nor does it. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. § 103(a) of claim 381.

E. 35 U.S.C. § 103(a) Rejections (Oostman and Capewell in view of Chu)

Claim 382 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Oostman* and *Capewell* as applied to claim 379 above, and further in view of *Chu*.

Claim 382 depends from independent claim 364, and thus, includes every feature of its base claims. Claim 364 has been shown above to be patentable over *Oostman* in view of *Capewell*. The tertiary reference *Chu* introduced in the 35 U.S.C. § 103 rejection of claim 382 is not relied upon to cure the above-identified deficiencies in the foregoing reference, nor does it. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. § 103(a) of claim 382.

IV. NEW CLAIM

Claim 387 has been newly added to recite that “the extended light source has an etendue at least a hundred times greater than an etendue of a laser beam out of a single mode optical fiber.” Applicant respectfully submits that the cited art fails to teach or suggest these features of claim 387. For example, neither *Oostman* nor *Capewell* discusses an etendue of its light source. Further, claim 387 depends from independent claim 364, and thus, includes every feature of its base claim. As such, claim 387 is also allowable at least because of its dependence from claim 364 for the reasons discussed above. Accordingly, Applicant respectfully requests that the Examiner allow claim 387.

V. CONCLUSION

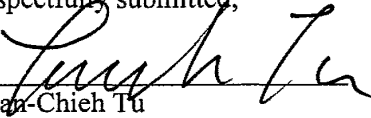
In view of the above, Applicant believes the pending application is in condition for allowance. Applicant believes \$200.00 for a one month extension of time is due with this response as stated in the Extension of Time filed concurrently herewith. The fee will be paid online by Credit Card. Please charge any additional fees required or credit any overpayment during the pendency of this Application pursuant to 37 CFR 1.16 through 1.21 inclusive, and any other sections in Title 37 of the Code of Federal Regulations that may regulate fees to Deposit Account No. 06-2380, under Order No. BECC.P0002US.CIP/11412161 from which the undersigned is authorized to draw.

Application No. 14/555,102
Reply to Office Action of June 27, 2016

Docket No.: BECC.P0002US.CIP/11412161

Dated: October 27, 2016

Respectfully submitted,

By 

Kuang-Chieh Tu

Registration No.: 70,414

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Attorney for Applicant

Electronic Patent Application Fee Transmittal				
Application Number:		14555102		
Filing Date:		26-Nov-2014		
Title of Invention:		FLOW CYTOMETER		
First Named Inventor/Applicant Name:		Yong Qin Chen		
Filer:		Gina N. Shishima/Greg McCormack		
Attorney Docket Number:		BECC.P0002US.CIP(12US0040		
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 1 month with \$0 paid	1251	1	200	200
Miscellaneous:				
Total in USD (\$)				200

Electronic Acknowledgement Receipt	
EFS ID:	27345231
Application Number:	14555102
International Application Number:	
Confirmation Number:	4589
Title of Invention:	FLOW CYTOMETER
First Named Inventor/Applicant Name:	Yong Qin Chen
Customer Number:	129381
Filer:	Gina N. Shishima/Greg McCormack
Filer Authorized By:	Gina N. Shishima
Attorney Docket Number:	BECC.P0002US.CIP{12US0040
Receipt Date:	27-OCT-2016
Filing Date:	26-NOV-2014
Time Stamp:	16:35:45
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$200
RAM confirmation Number	102816INTEFSW16363400
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		BECCP0002USCIP.pdf	2504858	yes	19
			b41b3c2b55d88b3a35b8bdd62a6b6172ec81cae		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Extension of Time		1	1	
	Amendment/Req. Reconsideration-After Non-Final Reject		2	2	
	Claims		3	6	
	Applicant Arguments/Remarks Made in an Amendment		7	19	
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30632	no	2
			43de18c0dee7ec5a4ea433b471f1aaad98a59b84		
Warnings:					
Information:					
Total Files Size (in bytes):			2535490		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

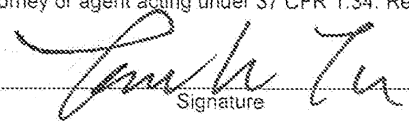
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

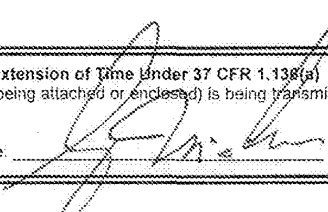
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)		Docket Number (Optional) BECC.P0002US.CIP/11412161																															
Application Number 14/555,102-Conf. #4589		Filed November 26, 2014																															
For FLOW CYTOMETER																																	
Art Unit 2884		Examiner M. D. Vu																															
<p>This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.</p> <p>The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">Fee</th> <th style="text-align: center;">Small Entity Fee</th> <th style="text-align: center;">Micro Entity Fee</th> <th></th> </tr> </thead> <tbody> <tr> <td>☒ One month (37 CFR 1.17(a)(1))</td> <td style="text-align: center;">\$200</td> <td style="text-align: center;">\$100</td> <td style="text-align: center;">\$50</td> <td style="text-align: center;">\$ 200.00</td> </tr> <tr> <td>☐ Two months (37 CFR 1.17(a)(2))</td> <td style="text-align: center;">\$600</td> <td style="text-align: center;">\$300</td> <td style="text-align: center;">\$150</td> <td style="text-align: center;">\$</td> </tr> <tr> <td>☐ Three months (37 CFR 1.17(a)(3))</td> <td style="text-align: center;">\$1,400</td> <td style="text-align: center;">\$700</td> <td style="text-align: center;">\$350</td> <td style="text-align: center;">\$</td> </tr> <tr> <td>☐ Four months (37 CFR 1.17(a)(4))</td> <td style="text-align: center;">\$2,200</td> <td style="text-align: center;">\$1,100</td> <td style="text-align: center;">\$550</td> <td style="text-align: center;">\$</td> </tr> <tr> <td>☐ Five months (37 CFR 1.17(a)(5))</td> <td style="text-align: center;">\$3,000</td> <td style="text-align: center;">\$1,500</td> <td style="text-align: center;">\$750</td> <td style="text-align: center;">\$</td> </tr> </tbody> </table> <p> ☐ Applicant asserts small entity status. See 37 CFR 1.27. ☐ Applicant certifies micro entity status. See 37 CFR 1.29. <small>Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.</small> ☐ A check in the amount of the fee is enclosed. ☒ Payment by credit card. ☐ The Director has already been authorized to charge fees in this application to a Deposit Account. ☒ The Director is hereby authorized to charge any underpayment or credit any overpayment, to Deposit Account Number 06-2380 ☐ Payment made via EFS-Web. </p> <p>WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.</p> <p>I am the</p> <p> ☐ applicant. ☐ attorney or agent of record. Registration number _____ ☒ attorney or agent acting under 37 CFR 1.34. Registration number 70,414 </p> <p>  Signature _____ Date October 27, 2016 Kuan-Chieh Tu Typed or printed name _____ Telephone Number (214) 855-8032 </p> <p>NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.</p>					Fee	Small Entity Fee	Micro Entity Fee		☒ One month (37 CFR 1.17(a)(1))	\$200	\$100	\$50	\$ 200.00	☐ Two months (37 CFR 1.17(a)(2))	\$600	\$300	\$150	\$	☐ Three months (37 CFR 1.17(a)(3))	\$1,400	\$700	\$350	\$	☐ Four months (37 CFR 1.17(a)(4))	\$2,200	\$1,100	\$550	\$	☐ Five months (37 CFR 1.17(a)(5))	\$3,000	\$1,500	\$750	\$
	Fee	Small Entity Fee	Micro Entity Fee																														
☒ One month (37 CFR 1.17(a)(1))	\$200	\$100	\$50	\$ 200.00																													
☐ Two months (37 CFR 1.17(a)(2))	\$600	\$300	\$150	\$																													
☐ Three months (37 CFR 1.17(a)(3))	\$1,400	\$700	\$350	\$																													
☐ Four months (37 CFR 1.17(a)(4))	\$2,200	\$1,100	\$550	\$																													
☐ Five months (37 CFR 1.17(a)(5))	\$3,000	\$1,500	\$750	\$																													

☐ * Total of 1 forms are submitted.
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One Month Request for Extension of Time Under 37 CFR 1.136(a)	
I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office electronic filing system in accordance with 37 CFR § 1.6(a)(4).	
Dated: October 27, 2016	Signature:  (Greg McCormack)

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 14/555,102		Filing Date 11/26/2014		☐ To be Mailed	
ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO									
APPLICATION AS FILED – PART I									
(Column 1)			(Column 2)						
FOR		NUMBER FILED	NUMBER EXTRA		RATE (\$)		FEE (\$)		
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A	N/A		N/A				
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))		N/A	N/A		N/A				
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A	N/A		N/A				
TOTAL CLAIMS (37 CFR 1.16(j))		minus 20 =	*		X \$ =				
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 =	*		X \$ =				
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).							
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))									
* If the difference in column 1 is less than zero, enter "0" in column 2.						TOTAL			
APPLICATION AS AMENDED – PART II									
(Column 1)			(Column 2)			(Column 3)			
AMENDMENT	10/27/2016	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(j))	* 20	Minus	** 23	= 0	X \$80 =		0	
	Independent (37 CFR 1.16(h))	* 1	Minus	***5	= 0	X \$420 =		0	
	☐ Application Size Fee (37 CFR 1.16(s))								
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
						TOTAL ADD'L FEE		0	
(Column 1)			(Column 2)			(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(j))	*	Minus	**	=	X \$ =			
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =			
	☐ Application Size Fee (37 CFR 1.16(s))								
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
						TOTAL ADD'L FEE			
<p>* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.</p> <p>** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".</p> <p>*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".</p> <p>The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.</p>									

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Doc code: RCEX

Doc description: Request for Continued Examination (RCE)

PTO/SB/30EFS (07-09)

Approved for use through 07/31/2012. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL **(Submitted Only via EFS-Web)**

Application Number	14/555,102	Filing Date	2014-11-26	Docket Number (if applicable)	BECC.P0002US.CIP	Art Unit	2884
First Named Inventor	Yong Qin Chen			Examiner Name	Mindy D. Vu		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
 Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

☐ Other _____

☒ Enclosed

☐ Amendment/Reply

☒ Information Disclosure Statement (IDS)

☐ Affidavit(s)/ Declaration(s)

☒ Other

Quick Path IDS

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
 (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

☒ **The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.**
 The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to
 Deposit Account No 501212

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

Applicant Signature

Doc code: RCEX

Doc description: Request for Continued Examination (RCE)

PTO/SB/30EFS (07-09)

Approved for use through 07/31/2012. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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Signature of Registered U.S. Patent Practitioner			
Signature	Gina N. Shishima/	Date (YYYY-MM-DD)	2017-07-11
Name	Gina N. Shishima	Registration Number	45104

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Form PTO-1449 (modified)		Atty. Docket No.: BECC.P0002US.CIP/11412161	Serial No.: 14/555,102
List of Patents and Publications for Applicant's INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Applicant: IRIS INTERNATIONAL, INC.	
		Filing Date: November 26, 2014	Group: 2884
U.S. Patent Documents <i>See Page 1</i>	Foreign Patent Documents <i>See Page 1</i>	Other Art <i>See Page 1</i>	

U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A169	5,257,917	11/02/93	Minarik et al.	417	475	10/02/92

Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Language
	B36	JP H04-184241	07/01/92	Japan	Japanese (English Abstract)
	B37	JP 2004-341204	12/02/04	Japan	Japanese (English Abstract)
	B38	JP 2012-026837	02/09/12	Japan	Japanese (English Abstract)
	B39	JP H10-73528	03/17/98	Japan	Japanese (English Abstract)
	B40	JP H09-502794	03/18/97	Japan	Japanese (English Abstract)

Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C6	Office Action issued in Japanese Patent Application No. 2015-515208, issued May 29, 2017 (English Translation Provided) (Attorney Docket No. BECC.P0002JP)

42540182.1

EXAMINER:**DATE CONSIDERED:**

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

INFORMATION DISCLOSURE STATEMENT — PTO-1449 (MODIFIED)