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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/436,840	09/07/2021	Brian E. Brooks	82438US006	8993
196179	7590	08/19/2024	EXAMINER	
Solventum Intellectual Properties Company			ALDERSON, ANNE-MARIE K	
2510 Conway Ave E			ART UNIT	PAPER NUMBER
3M Center, 275-6E-21			3626	
St Paul, MN 55144			NOTIFICATION DATE	DELIVERY MODE
			08/19/2024	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):

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Office Action Summary	Application No. 17/436,840	Applicant(s) Brooks et al.	
	Examiner ANNE-MARIE K ALDERSON	Art Unit 3626	AIA (FITF) Status Yes

-- 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 7/19/24.
☐ 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) 1-7 and 9-16 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) 1-7 and 9-16 is/are rejected.
- 8) ☒ Claim(s) 1-7 and 9-16 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 ____ 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 _____
- 3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 4) ☐ Other: _____

DETAILED ACTION

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Status of Claims

1. This action is in reply to the RCE filed on 07/19/2024.
2. Claim 1 has been amended and is hereby entered.
3. Claim 8 was previously been canceled.
4. Claim 16 has been added.
5. Claims 1-7, 9-16 are currently pending and have been examined.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/19/24 has been entered.

Priority

Applicant's claim to priority to the following applications is acknowledged: Provisional application 62/818,816 filed on 03/15/2019 and Provisional application 62/898,821 filed on 09/11/2019. Status of this application as a 371 of PCT/IB19/59227 filed on 10/29/19 is acknowledged. A certified

copy of foreign priority application was received on 09/07/2021. As such, a priority date of **03/15/2019** has been given to this application.

Claim Objections

Claim 1 is objected to for the following informalities: Claim 1 has been amended to include recitation of “wherein each control setting includes one or more possible settings and each possible setting includes an impact measurement that represents the impact of the possible setting relative to other possible settings of the respective control setting and a confidence interval corresponding to the impact measurement that represents the current level of system uncertainty about the causal effects of the possible setting” (Emphasis Examiner). While the underlined portions do not cause true antecedent basis issues, Examiner recommends amending as follows, or amending in a similar manner, for improved clarity:

wherein each control setting includes one or more possible settings and each possible setting includes an impact measurement that represents an impact of the possible setting relative to other possible settings of a respective control setting and a confidence interval corresponding to the impact measurement that represents a current level of system uncertainty about ~~the~~ causal effects of the possible setting

Claims 2-7, 9-16 are subsequently objected to as they depend from Claim 1.

Claim 16 is objected to because of the following informalities: Claim 16 appears to contain an accidental omission of the claim from which it depends. As presented, Claim 16 recites the preamble “The method of claim, further comprising...”. For purposes of examination, it is being interpreted as depending from Claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-7, 9-16 are rejected under 35 U.S.C.101 because the claimed invention is directed to a judicial exception (an abstract idea) without significantly more.

Step 1

Claims 1-7, 9-16 are drawn to a method, which is within the four statutory categories. **Claims 1-7, 9-16** are further directed to an abstract idea on the grounds set out in detail below.

Step 2A Prong 1

Claim 1 recites implementing the steps of:

- receiving one or more external inputs to optimize patient selection for one or more clinical trials;
- generating, based on the one or more external inputs, one or more baseline values to a plurality of internal parameters, wherein the plurality of internal parameters defines how to update a causal model and how to determine which control settings to select given a current causal model;
- accessing a current causal model that measures one or more causal relationships between one or more control settings and a measure of success of a clinical trial, wherein each control setting includes one or more possible settings and each possible setting includes an impact measurement that represents the impact of the possible setting relative to other possible

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