

ASSIGNMENT

For valuable consideration, the receipt of which we acknowledge, and intending to be bound legally, we, BERT VOGELSTEIN, KENNETH W. KINZLER, CHRIS DOUVILLE, and NICKOLAS PAPADOPOULOS, each individually assign to THE JOHNS HOPKINS UNIVERSITY, a corporation formed under the laws of Maryland and having a principal place of business at 3400 North Charles Street, Baltimore, MD 21218, and its successors, transferees, and assignees (collectively the "Assignee"), all of our individual and joint right, title, and interest throughout the world in the invention(s) (the "Subject Matter") described in a patent application that names us as inventors, is titled "RAPID ANEUPLOIDY DETECTION," and was filed in the United States Patent and Trademark Office on May 17, 2019, as application 62/849,662 (the "Application").

Christopher C.D. Jones 06/20/19

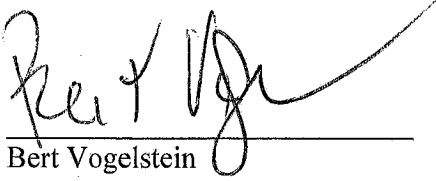
This Assignment assigns, in addition to the Subject Matter of the Application, (a) the Application and all other applications that may be made for, and all patents, utility models, design registrations, and other rights of exclusion and inventors' certificates for, any of the Subject Matter (collectively the "Applications and Granted Rights") in every country or region and under every treaty or convention, (b) the right to claim priority based on and the benefit of the filing date of any of the Applications and Granted Rights under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other applicable treaties or conventions, and (c) the right to pursue, collect, and retain in the Assignee's name or otherwise, damages and any other remedies arising from any past, present, or future infringement of the Subject Matter, the Applications and Granted Rights, and any other rights assigned by this Assignment.

We authorize the Assignee to apply for and pursue protection for any or all of the Subject Matter, the Applications and Granted Rights, and any other rights assigned by this Assignment in all countries, regions, and territories of the world, in our names or in the Assignee's name.

We represent and warrant that we have the right and power to make this Assignment and that we have not made and will not make any other assignment that conflicts with this Assignment.

We will communicate to the Assignee (or, at the request of the Assignee to other parties) all known facts in any form relating to the Subject Matter; will execute and provide all oaths and

declarations, statements, testimony, assignments, powers of attorney, applications, and documents; and will perform all other lawful acts necessary or desirable to secure fully to the Assignee the rights, titles, and interests assigned by this Assignment.


Bert Vogelstein

Date: June 20, 2019

Witnessed by:

Signature: Kashleen Helwig

Date: June 20, 2019

Print Name: Kashleen Helwig

Signature: Lauren Bois

Date: June 20, 2019

Print Name: Lauren Bois

Kenneth W. Kinzler
Kenneth W. Kinzler

Date: June 20, 2019

Witnessed by:

Signature: Kathleen Helwig

Date: June 20, 2019

Print Name: Kathleen Helwig

Signature: Lauren Boss

Date: June 20, 2019

Print Name: Lauren Boss

CD
Chris Douville

Date: June 20, 2019

Witnessed by:

Christopher (CD)
June 20, 2019

Signature: Kathleen Helwig

Date: June 20, 2019

Print Name: Kathleen Helwig

Signature: Lauren Bois

Date: June 20, 2019

Print Name: Lauren Bois



Nicholas Papadopoulos

Attorney Docket No.: 44807-0322P01 / C15729_P15729-01

Date: June 20th 2019

Witnessed by:

Signature: Kashleen Helwig

Date: June 20, 2019

Print Name: Kashleen Helwig

Signature: Lauren Bois

Date: June 20, 2019

Print Name: Lauren Bois

The Assignee hereby acknowledges and accepts the foregoing assignment.

Assignee: THE JOHNS HOPKINS UNIVERSITY

Signature: Stu Kousouris

Date: 6/28/2019

Name: STEVEN KOUSOURIS

Title: EXECUTIVE DIRECTOR, JH Technology Ventures

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ASSIGNMENT

For valuable consideration, the receipt of which we acknowledge, and intending to be bound legally, we, BERT VOGELSTEIN, KENNETH W. KINZLER, CHRISTOPHER DOUVILLE, and NICKOLAS PAPADOPOULOS, each individually assign to THE JOHNS HOPKINS UNIVERSITY, a corporation formed under the laws of Maryland and having a principal place of business at 3400 North Charles Street , Baltimore, MD 21218, and its successors, transferees, and assignees (collectively the “Assignee”), all of our individual and joint right, title, and interest throughout the world in the invention(s) (the “Subject Matter”) described in a patent application that names us as inventors, is titled “RAPID ANEUPLOIDY DETECTION,” and was filed in the United States Patent and Trademark Office on May 15, 2020, as application PCT/US2020/033209 (the “Application”).

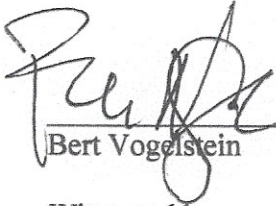
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To the extent any portion of the rights assigned by this Assignment has previously been assigned to the Assignee, this Assignment is a confirmation of the previous assignment.

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Bert Vogelstein

Date: 5.21.2020

Witnessed by:

Signature: Kathleen Helwig

Date: 5/21/2020

Print Name: Kathleen Helwig

Signature: _____

Date: _____

Print Name: _____

Kenneth W. Kinzler
Kenneth W. Kinzler

Date: 5/21/2020

Witnessed by:

Signature: _____

Date: _____

Print Name: _____

Signature: _____

Date: _____

Print Name: _____

Christopher Douville /Christopher Douville/

Christopher Douville

Date: 2020-05-21

Witnessed by:

Signature: _____

Date: _____

Print Name: _____

Signature: _____

Date: _____

Print Name: _____

/Nickolas Papadopoulos/
Nickolas Papadopoulos

Date: 5/21/2020

Witnessed by:

Signature: _____

Date: _____

Print Name: _____

Signature: _____

Date: _____

Print Name: _____

The Assignee hereby acknowledges and accepts the foregoing assignment.

Assignee: THE JOHNS HOPKINS UNIVERSITY

Signature: Stef Kousouris

Date: 5/31/2020

Name: Steven Kousouris

Title: Executive Director, Johns Hopkins Technology Ventures, The Johns Hopkins University

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ASSIGNMENT

For valuable consideration, the receipt of which we acknowledge, and intending to be bound legally, we, BERT VOGELSTEIN, KENNETH W. KINZLER, CHRISTOPHER DOUVILLE, and NICKOLAS PAPADOPOULOS, each individually assign to THE JOHNS HOPKINS UNIVERSITY, a corporation formed under the laws of Maryland and having a principal place of business at 3400 North Charles Street , Baltimore, MD 21218, and its successors, transferees, and assignees (collectively the “Assignee”), all of our individual and joint right, title, and interest throughout the world in the invention(s) (the “Subject Matter”) described in a patent application that names us as inventors, is titled “RAPID ANEUPLOIDY DETECTION,” and was filed in the United States Patent and Trademark Office on May 15, 2020, as application PCT/US2020/033209 (the “Application”).

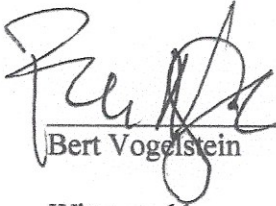
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Bert Vogelstein

Date: 5.21.2020

Witnessed by:

Signature: Kathleen Helwig

Date: 5/21/2020

Print Name: Kathleen Helwig

Signature: _____

Date: _____

Print Name: _____

Kenneth W. Kinzler
Kenneth W. Kinzler

Date: 5/21/2020

Witnessed by:

Signature: _____

Date: _____

Print Name: _____

Signature: _____

Date: _____

Print Name: _____

Christopher Douville /Christopher Douville/

Christopher Douville

Date: 2020-05-21

Witnessed by:

Signature: _____

Date: _____

Print Name: _____

Signature: _____

Date: _____

Print Name: _____

/Nickolas Papadopoulos/
Nickolas Papadopoulos

Date: 5/21/2020

Witnessed by:

Signature: _____

Date: _____

Print Name: _____

Signature: _____

Date: _____

Print Name: _____

The Assignee hereby acknowledges and accepts the foregoing assignment.

Assignee: THE JOHNS HOPKINS UNIVERSITY

Signature: Steven Kousouris

Date: 5/31/2020

Name: Steven Kousouris

Title: Executive Director, Johns Hopkins Technology Ventures, The Johns Hopkins University

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ASSIGNMENT

For valuable consideration, the receipt of which I acknowledge, and intending to be bound legally, I, CRISTIAN TOMASETTI, assign to THE JOHNS HOPKINS UNIVERSITY, a corporation formed under the laws of Maryland and having a principal place of business at 3400 North Charles Street, Baltimore, MD 21218, and its successors, transferees, and assignees (collectively the "Assignee"), all of my right, title, and interest throughout the world in the invention(s) (the "Subject Matter") described in a patent application that names me as inventor, is titled "RAPID ANEUPLOIDY DETECTION," and was filed in the United States Patent and Trademark Office on May 17, 2019, as application 62/849,662; on September 24, 2019, as application 62/905,327; on February 6, 2020, as application 62/971,050; and on May 15, 2020, as application PCT/US2020/033209 (the "Application").

This Assignment assigns, to the extent, if any, not previously assigned, in addition to the Subject Matter, (a) the Application and all other applications that may be made for, and all patents, utility models, design registrations, and other rights of exclusion and inventors' certificates for, any of the Subject Matter (collectively the "Applications and Granted Rights") in every country or region and under every treaty or convention, (b) the right to claim priority based on and the benefit of the filing date of any of the Applications and Granted Rights under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other applicable treaties or conventions, and (c) the right to pursue, collect, and retain in the Assignee's name or otherwise, damages and any other remedies arising from any past, present, or future infringement of the Subject Matter, the Applications and Granted Rights, and any other rights assigned by this Assignment.

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documents; and will perform all other lawful acts necessary or desirable to secure fully to the Assignee the rights, titles, and interests assigned by this Assignment. I confirm that I was obligated to make this Assignment to THE JOHNS HOPKINS UNIVERSITY, at the time of the filing of the Application.

Cristian Tomasetti
Cristian Tomasetti

Date: 4/2/2021

Witnessed by:

Signature: Suzanne Tomasetti

Date: 4/2/2021

Print Name: SUZANNE TOMASETTI

Signature: _____

Date: _____

Print Name: _____

The Assignee hereby acknowledges and accepts the foregoing assignment.

Assignee: THE JOHNS HOPKINS UNIVERSITY

Signature: Steven Kousouris

Date: 4/1/2021

Name: Steven Kousouris

Title: Executive Director, Johns Hopkins Technology Ventures, The Johns Hopkins University