506154365 07/15/2020

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6201097

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
AYMAN F. ABOURADDY	08/23/2019
MASSIMO MAXIMILIAN L. VILLINGER	08/23/2019
ABBAS SHIRI	09/24/2019
SOROUSH SHABAHANG	11/26/2019
CHRIS H. VILLINGER	10/04/2019

RECEIVING PARTY DATA

Name:	UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC.
Street Address:	12201 RESEARCH PARKWAY
City:	ORLANDO
State/Country:	FLORIDA
Postal Code:	32826

PROPERTY NUMBERS Total: 2

Property Type	Number
Application Number:	62842787
Application Number:	16865486

CORRESPONDENCE DATA

Fax Number: (773)570-3328

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 7735703330

Email: mcooper@kandrip.com

Correspondent Name: KLINTWORTH & ROZENBLAT IP LLP

Address Line 1: 19 N. GREEN STREET
Address Line 4: CHICAGO, ILLINOIS 60607

ATTORNEY DOCKET NUMBER:	UCF01-007-PRO AND US
NAME OF SUBMITTER:	WILLIAM GREENER
SIGNATURE:	/William Greener/
DATE SIGNED:	07/15/2020

Total Attachments: 14

PATENT REEL: 053214 FRAME: 0800

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WHEREAS, I, the undersigned, residing at the indicated addresses given below, respectively, have invented certain new and useful improvements in Coherently enhanced near-infrared quantum efficiency of a solar cell integrated into a planar omni-resonant cavity, for which an application for U.S. Letters Patent was filed on May 3, 2019, as Serial No. 62/842,787.

WHEREAS, by virtue of my employment/appointment with the UNIVERSITY OF CENTRAL FLORIDA, I am obligated to assign any rights in the said invention to the UNIVERSITY OF CENTRAL FLORIDA or its designee;

WHEREAS, the UNIVERSITY OF CENTRAL FLORIDA has designated the UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., existing by virtue of the laws of the State of Florida, and having an office at 12201 Research Parkway, Ste. 501, Orlando, FL 32826, to be the assignee of the entire right, title and interest in and to the said invention;

WHEREAS, the UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC. is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent which may be granted therefor in the United States and in any and all foreign countries;

NOW, THEREFORE, in view of good and valuable consideration, the sufficiency and receipt of which is hereby acknowledged, I, the undersigned, have sold, assigned, and transferred, and by these presents do sell, assign, and transfer, unto said UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., its successors and assigns, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries and the entire right, title, and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, and extensions thereof.

I hereby authorize and request the Patent Office Officials in the United States and in any and all foreign countries to issue any and all of said Letters Patent, when granted, to said UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., as the assignee of the entire right, title and interest in and to the same, for the sole use and behalf of said UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., its successors and assigns.

FURTHER, I agree that I will communicate to said UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., or its representatives, any facts known to us respecting said invention; testify in any legal proceedings; sign all lawful papers; execute all divisional, continuation, substitution, renewal, and reissue applications; execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC.; make all rightful oaths; and generally do everything possible to aid the said UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., its successors and assigns, to obtain and enforce proper protection for said invention in the United States and in any and all foreign countries.

IN TESTIMONY WHEREOF, I have hereunto set my hand on the date written herein below.

Ayman F. Abouraddy 4365-Andromeda Loop-N. Orlando; FL 32816

1105 TWIN OAKS CIRCLE OVIEDU, FL 32765

State of Florida County of Orange)

On this 23 day of August, 2019, personally appeared before me the above-named Ayn. Abourds, to me known to be the person described in the foregoing instrument, who executed the foregoing instrument, and who acknowledged the same to be his/her free act and deed in and for the purposes set forth in said instrument.

Notary Public
My Commission Expires: 6/2/2022

SEAL



Date:	8/28/19	Veltona Leton University of Central Florid RESEARCH FOUNDATION, INC.
		Name: Svetlana Shtrom, PhD, MBA
		Title: Vice President of Technology Transfer
On this <u>20</u> Sy <u>ellandling</u> the foregoin	May of Acob, 2019 To me known to be the polyginstrument, and who ack oses set forth in said instru	Notary Public My Commission Expires: 5/22/2/2/2
		Amanda Cathleen Reno NOTARY PUBLIC STATE OF FLORIDA Comm# GG072484 Expires 5/22/2021

WHEREAS, I, the undersigned, residing at the indicated addresses given below, respectively, have invented certain new and useful improvements in Coherently enhanced near-infrared quantum efficiency of a solar cell integrated into a planar omni-resonant cavity, for which an application for U.S. Letters Patent was filed on May 3, 2019, as Serial No. 62/842,787.

WHEREAS, by virtue of my employment/appointment with the UNIVERSITY OF CENTRAL FLORIDA, I am obligated to assign any rights in the said invention to the UNIVERSITY OF CENTRAL FLORIDA or its designee;

WHEREAS, the UNIVERSITY OF CENTRAL FLORIDA has designated the UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., existing by virtue of the laws of the State of Florida, and having an office at 12201 Research Parkway, Ste. 501, Orlando, FL 32826, to be the assignee of the entire right, title and interest in and to the said invention;

WHEREAS, the UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC. is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent which may be granted therefor in the United States and in any and all foreign countries;

NOW, THEREFORE, in view of good and valuable consideration, the sufficiency and receipt of which is hereby acknowledged, I, the undersigned, have sold, assigned, and transferred, and by these presents do sell, assign, and transfer, unto said UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., its successors and assigns, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries and the entire right, title, and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, and extensions thereof.

I hereby authorize and request the Patent Office Officials in the United States and in any and all foreign countries to issue any and all of said Letters Patent, when granted, to said UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., as the assignee of the entire right, title and interest in and to the same, for the sole use and behalf of said UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., its successors and assigns.

FURTHER, I agree that I will communicate to said UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., or its representatives, any facts known to us respecting said invention; testify in any legal proceedings; sign all lawful papers; execute all divisional, continuation, substitution, renewal, and reissue applications; execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC.; make all rightful oaths; and generally do everything possible to aid the said UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., its successors and assigns, to obtain and enforce proper protection for said invention in the United States and in any and all foreign countries.

IN TESTIMONY WHEREOF, I have hereunto set my hand on the date written herein below.

Massimo Maximilian L. Villinger

4365 Andromeda Loop N.

Orlando, FL-32816

4328 TIDEWATEL DRIVE ORLANDO, FL 328/2

State of Florida County of Overy

On this 23 day of August, 2019, personally appeared before me the above-named to me known to be the person described in the foregoing instrument, who executed the foregoing instrument, and who acknowledged the same to be his/her free act and deed in and for the purposes set forth in said instrument.

Notary Public
My Commission Expires: 6 2 2022

SEAL

MARIAN GAIL DRABCZUK MY COMMISSION # GG 209270 EXPIRES: June 2, 2022 Bonded Thru Notary Public Underwriters

Date: 8/28/19	Julian Ation
	UNIVERSITY OF CENTRAL FLORIDA
	RESEARCH FOUNDATION, INC.
	Name: Svetlana Shtrom, PhD, MBA
	Title: Vice President of Technology Transfer
the foregoing instrument, and who acknow for the purposes set forth in said instrument.	tary Pulylic Commission Expires: 5/22/202

Amanda Cathlean Reno
NOTARY PUBLIC
STATE OF FLORIDA
Comm# GG072484
Expires 5/22/2021

WHEREAS, I, the undersigned, residing at the indicated addresses given below, respectively, have invented certain new and useful improvements in Coherently enhanced near-infrared quantum efficiency of a solar cell integrated into a planar omni-resonant cavity, for which an application for U.S. Letters Patent was filed on May 3, 2019, as Serial No. 62/842,787.

WHEREAS, by virtue of my employment/appointment with the UNIVERSITY OF CENTRAL FLORIDA, I am obligated to assign any rights in the said invention to the UNIVERSITY OF CENTRAL FLORIDA or its designee;

WHEREAS, the UNIVERSITY OF CENTRAL FLORIDA has designated the UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., existing by virtue of the laws of the State of Florida, and having an office at 12201 Research Parkway, Ste. 501, Orlando, FL 32826, to be the assignee of the entire right, title and interest in and to the said invention;

WHEREAS, the UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC. is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent which may be granted therefor in the United States and in any and all foreign countries;

NOW, THEREFORE, in view of good and valuable consideration, the sufficiency and receipt of which is hereby acknowledged, I, the undersigned, have sold, assigned, and transferred, and by these presents do sell, assign, and transfer, unto said UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., its successors and assigns, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries and the entire right, title, and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, and extensions thereof.

I hereby authorize and request the Patent Office Officials in the United States and in any and all foreign countries to issue any and all of said Letters Patent, when granted, to said UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., as the assignee of the entire right, title and interest in and to the same, for the sole use and behalf of said UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., its successors and assigns.

FURTHER, I agree that I will communicate to said UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., or its representatives, any facts known to us respecting said invention; testify in any legal proceedings; sign all lawful papers; execute all divisional, continuation, substitution, renewal, and reissue applications; execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC.; make all rightful oaths; and generally do everything possible to aid the said UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., its successors and assigns, to obtain and enforce proper protection for said invention in the United States and in any and all foreign countries.

IN TESTIMONY WHEREOF, I have hereunto set my hand on the date written herein below.

Signed

Abbas Shiri
4365 Andromeda Loop N.
Orlando, FL 32816

State of Florida
County of Orange

On this 24th day of Saltanee 2019, personally appeared before me the above-named Abbas 5hiri
instrument, who executed the foregoing instrument, and who acknowledged the same to be his/her free act and deed in and for the purposes set to the in said instrument.

SEAL

Notary Public State of Florida
Amy Marie Perry
My Commission GG 012658
Expires 09/08/2020

My Commission Expires: 9/6/20

Date:	UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC.
	Name: Svetlana Shtrom, PhD, MBA
	Title: Vice President of Technology Transfer
the foregoing instrument, and who acknow for the purposes set forth in said instrument. Nota My (ry Public Commission Expires: 9/3/2022
SEA	LASZLO MOLNAR State of Florida-Notary Public Commission # GG 254525 My Commission Expires September 03, 2022

WHEREAS, I, the undersigned, residing at the indicated addresses given below, respectively, have invented certain new and useful improvements in Coherently enhanced near-infrared quantum efficiency of a solar cell integrated into a planar omni-resonant cavity, for which an application for U.S. Letters Patent was filed on May 3, 2019, as Serial No. 62/842,787.

WHEREAS, by virtue of my employment/appointment with the UNIVERSITY OF CENTRAL FLORIDA, I am obligated to assign any rights in the said invention to the UNIVERSITY OF CENTRAL FLORIDA or its designee;

WHEREAS, the UNIVERSITY OF CENTRAL FLORIDA has designated the UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., existing by virtue of the laws of the State of Florida, and having an office at 12201 Research Parkway, Ste. 501, Orlando, FL 32826, to be the assignee of the entire right, title and interest in and to the said invention;

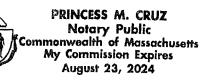
WHEREAS, the UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC. is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent which may be granted therefor in the United States and in any and all foreign countries;

NOW, THEREFORE, in view of good and valuable consideration, the sufficiency and receipt of which is hereby acknowledged, I, the undersigned, have sold, assigned, and transferred, and by these presents do sell, assign, and transfer, unto said UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., its successors and assigns, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries and the entire right, title, and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, and extensions thereof.

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FURTHER, I agree that I will communicate to said UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., or its representatives, any facts known to us respecting said invention; testify in any legal proceedings; sign all lawful papers; execute all divisional, continuation, substitution, renewal, and reissue applications; execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC.; make all rightful oaths; and generally do everything possible to aid the said UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., its successors and assigns, to obtain and enforce proper protection for said invention in the United States and in any and all foreign countries.

IN TESTIMONY WHEREOF	F, I have hereunto set my hand on the date written herein
below.	Signed Soroush Shabahang 4365 Andromeda Loop N. Orlando, FL 32816
State of Florida County of)	
Scraish Shahahana, to me l	2019, personally appeared before me the above-named known to be the person described in the foregoing ag instrument, and who acknowledged the same to be purposes set forth in said instrument.
1	Princes W. Crust Notary Public My Commission Expires:
9	SEAL



WHEREAS, I, the undersigned, residing at the indicated addresses given below, respectively, have invented certain new and useful improvements in Coherently enhanced near-infrared quantum efficiency of a solar cell integrated into a planar omni-resonant cavity, for which an application for U.S. Letters Patent was filed on May 3, 2019, as Serial No. 62/842,787.

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WHEREAS, the UNIVERSITY OF CENTRAL FLORIDA has designated the UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., existing by virtue of the laws of the State of Florida, and having an office at 12201 Research Parkway, Ste. 501, Orlando, FL 32826, to be the assignee of the entire right, title and interest in and to the said invention;

WHEREAS, the UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC. is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent which may be granted therefor in the United States and in any and all foreign countries;

NOW, THEREFORE, in view of good and valuable consideration, the sufficiency and receipt of which is hereby acknowledged, I, the undersigned, have sold, assigned, and transferred, and by these presents do sell, assign, and transfer, unto said UNIVERSITY OF CENTRAL FLORIDA RESEARCH FOUNDATION, INC., its successors and assigns, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries and the entire right, title, and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, and extensions thereof.

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IN TESTIMONY WHEREOF, I have hereunto set my hand on the date written herein below.

Chris H. Villinger 4365 Andromeda Loop N.

Orlando, FL 32816

State of Florida

County of Orange)

On this $\frac{4^{44}}{\sqrt{1248668}}$ day of $\frac{O_{CTOSGS}}{\sqrt{1248668}}$, 2019, personally appeared before me the above-named is $\frac{1}{2}$ \frac instrument, who executed the foregoing instrument, and who acknowledged the same to be his/her free act and deed in and for the purposes set-forth in said instrument.

My Commission Expires: 9/6/20

SEAL

Notary Public State of Florida Amy Marie Perry My Commission GG 012858 Expires 09/06/2020

Date: 10/28/19	Millaue Hilian
	UNIVERSITY OF CENTRAL FLORIDA
	RESEARCH FOUNDATION, INC.
	Name: Svetlana Shtrom, PhD, MBA
	Title: Vice President of Technology Transfer
State of Florida County of	
hrom, to me known to be the	Notary Public My Commission Expires: 9/3/2022
	SEAL LASZLO MOLNAR State of Florida-Notary Public Commission # GG 254525 My Commission Expires September 03, 2022