

## PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT4154133

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT	
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT	
<b>CONVEYING PARTY DATA</b>		
<b>Name</b>		<b>Execution Date</b>
STEVEN LUO		08/18/2016
<b>RECEIVING PARTY DATA</b>		
<b>Name:</b>	BRIDGESTONE CORPORATION	
<b>Street Address:</b>	1-1 KYOBASHI 3-CHOME, CHOU-KU	
<b>City:</b>	TOKYO	
<b>State/Country:</b>	JAPAN	
<b>Postal Code:</b>	104-8340	
<b>PROPERTY NUMBERS Total: 38</b>		
<b>Property Type</b>	<b>Number</b>	
PCT Number:	US2000010274	
PCT Number:	US2001011925	
PCT Number:	US2002006105	
PCT Number:	US2004035773	
PCT Number:	US2007016632	
PCT Number:	US2007021476	
PCT Number:	US2008007601	
PCT Number:	US2008011725	
PCT Number:	US2008088366	
PCT Number:	US2009039639	
PCT Number:	US2009049187	
PCT Number:	US2009053857	
PCT Number:	US2010021783	
PCT Number:	US2010039793	
PCT Number:	US2010046482	
PCT Number:	US2010061476	
PCT Number:	US2011022210	
PCT Number:	US2011051717	
PCT Number:	US2011064111	
PCT Number:	US2011068069	

PATENT

Property Type	Number
PCT Number:	US2012023905
PCT Number:	US2012023906
PCT Number:	US2012023909
PCT Number:	US2012031139
PCT Number:	US2012053326
PCT Number:	US2012065759
PCT Number:	US2012065808
PCT Number:	US2012070898
PCT Number:	US2012071702
PCT Number:	US2013027905
PCT Number:	US2013030349
PCT Number:	US2013062611
PCT Number:	US2014021565
PCT Number:	US2014058563
PCT Number:	US2014068297
PCT Number:	US2015053986
PCT Number:	US2015029433
PCT Number:	US2016015328

#### CORRESPONDENCE DATA

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*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.*

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**Correspondent Name:** BRIDGESTONE CORPORATION

**Address Line 1:** 1-1 KYOBASHI 3-CHOME, CHOU-KU

**Address Line 4:** TOKYO, JAPAN 104-8340

<b>ATTORNEY DOCKET NUMBER:</b>	FIR-LUO
<b>NAME OF SUBMITTER:</b>	ARTHUR M. REGINELLI
<b>SIGNATURE:</b>	/Arthur M. Reginelli/
<b>DATE SIGNED:</b>	11/22/2016

#### Total Attachments: 4

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## ASSIGNMENT

I, Xiaoping Luo, hereby acknowledge that I am executor to the Estate of Steven Luo before the Summit County, Ohio, Probate Court. I hereby acknowledge the obligations and agreements that Steven Luo had with his employer, Bridgestone Americas Holding Inc., including the obligation to assign all rights to discoveries, inventions and improvements, whether patentable or not, that were made, conceived, or suggested by Steven Luo relating to his employer's business.

Discoveries, inventions, and improvements made, conceived, or suggested by Steven Luo relating to his employer's business include, but are not necessarily limited to, (i) those discoveries, inventions, and improvements that have been described or claimed in the patent applications listed in Schedule A of this Assignment and (ii) those discoveries, inventions, and improvements that have been described in the Bridgestone Invention Disclosure Forms listed in Schedule B of this Assignment.

NOW THEREFORE, pursuant to the obligations imposed by or arising under one or more of Steven Luo's employment agreement(s), advisor agreement(s), state or national statutes, common law, administrative regulation, and/or other good and valuable consideration, the receipt of which is hereby acknowledged, I, as executor of the Estate of Steven Luo, do hereby make the following assignments:

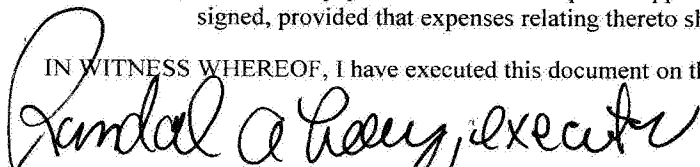
To **Bridgestone Corporation**, a corporation created and duly organized under the laws of Japan and having a place of business at 1-1 Kyobashi 3-Chome, Chou-Ku, Tokyo, Japan 104-8340, and its successors and assigns, I hereby

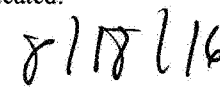
- assign, transfer, and set over the full and exclusive right to the above-identified discoveries, inventions, and improvements, including the above-identified patent applications, as well as any non-provisional, substitute, continuation, continuation-in-part, or divisional application filed thereon, and to any letters patent of the United States that issues from or claims priority to these application(s), as well as any reissue application or request for reexamination filed on such letters patent;
- covenant and agree to
  - a) assist said assignee and/or its designee(s), to the extent requested, in the prosecution of any patent applications contemplated by this Assignment, in any patent office proceeding on said patent application or patent issuing therefrom, or in litigation that arises out of or is based on said patent application or patent issuing therefrom, and
  - b) execute all papers related to patent applications contemplated by this Assignment that said assignee or its designee(s) request to be signed, provided that expenses relating thereto shall be borne by said assignee; and
- authorize and request the Commissioner of Patents and Trademarks to issue any letters patent of the United States relating to the above-identified discoveries, inventions, and improvements in the name of said assignee.

To **Bridgestone Corporation**, a corporation created and duly organized under the laws of Japan and having a place of business at 1-1 Kyobashi 3-Chome, Chou-Ku, Tokyo, Japan 104-8340, and its successors and assigns, I hereby

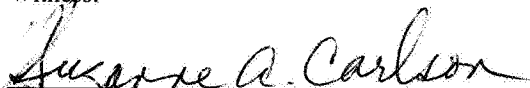
- assign, transfer, and set over the full and exclusive right to any patent applications filed in any international, regional or national patent office other than the United States Patent and Trademark Office, including but not limited to international applications filed under the Patent Cooperation Treaty and any national-stage filings thereof, relating to the above-identified discoveries, inventions, and improvements or gaining priority from the above-identified patent applications;
- covenant and agree for ourselves and our legal representative(s) to
  - a) assist said assignee and/or its designee(s), to the extent requested, in the prosecution of any of these patent applications or in litigation that arises out of or is based on these patent application(s) or patent(s) issuing therefrom, and
  - b) execute all papers related to these patent application(s) that said assignee or its designee(s) request to be signed, provided that expenses relating thereto shall be borne by said assignee.


IN WITNESS WHEREOF, I have executed this document on the date indicated.

  
Name: Xiaoping Luo, Executor for the Estate of Steven Luo

  
date

Witness:

  
Name:

  
date

# Schedule A

Title	Appln No.
FUNCTIONALIZED POLYMER	U.S. 14/369,422
FUNCTIONALIZED POLYMERS	U.S. 14/144,963
POLYMERS FUNCTIONALIZED WITH HETEROCYCLIC IMINES	U.S. 14/776,996
PROCESS FOR PREPARING BLENDS OF TRANS-1,4-POLYBUTADIENE AND SYNDIOTACTIC 1,2-POLYBUTADIENE	U.S. 14/559,001
POLYMERS FUNCTIONALIZED WITH NITRILE COMPOUNDS CONTAINING A PROTECTED AMINO GROUP	U.S. 14/607,173
RUBBER ARTICLES SUBJECTED TO REPEATED DEFORMATION AND COMPOSITIONS FOR MAKING THE SAME	U.S. 14/633,681
POLYMERS FUNCTIONALIZED WITH PROTECTED OXIME COMPOUNDS CONTAINING A CYANO GROUP	U.S. 14/704,318
POLYMERS FUNCTIONALIZED WITH HETEROCYCLIC NITRILE COMPOUNDS	U.S. 14/729,827
POLYMERS FUNCTIONALIZED WITH NITROSO COMPOUNDS	U.S. 14/819,919
METHOD FOR PRODUCING PARTIALLY CHLORINATED POLYMERS	U.S. 14/880,219
PROCESS FOR PRODUCING POLYDIENES	U.S. 14/978,136
METHOD FOR PRODUCING POLYDIENES AND POLYDIENE COPOLYMERS WITH REDUCED COLD FLOW	U.S. 15/043,702
POLYMERS FUNCTIONALIZED WITH HALOSILANE ACTIVATED 2-CYANOPYRIDINE DERIVATIVES	U.S. 15/088,824
POLYMERS FUNCTIONALIZED WITH HALOCARBON ACTIVATED 2-CYANOPYRIDINE DERIVATIVES	U.S. 15/088,859
PROCESS FOR PREPARING BLENDS OF TRANS-1,4-POLYBUTADIENE AND SYNDIOTACTIC 1,2-POLYBUTADIENE	U.S. 15/149,816
POLYMERS FUNCTIONALIZED WITH IMINE COMPOUNDS CONTAINING A PROTECTED THIOL GROUP	U.S. 62/196,534
MOLYBDENUM-BASED CATALYST COMPOSITION FOR POLYMERIZING CONJUGATED DIENES	PCT/US2000/010274
USE OF A CR- OR MO-BASED CATALYST SYSTEM TO PRODUCE BLENDS OF SYNDIOTACTIC 1,2-POLYBUTADIENE AND RUBBERY ELASTOMERS	PCT/US2001/011925
CONTINUOUS PROCESS FOR THE PRODUCTION OF CONJUGATED DIENE POLYMERS HAVING NARROW MOLECULAR WEIGHT DISTRIBUTION AND PRODUCTS THEREFROM	PCT/US2002/006105
BULK POLYMERIZATION PROCESS FOR PRODUCING POLYBUTADIENES	PCT/US2004/035773
FUNCTIONALIZED POLYMER	PCT/US2007/016632
BRANCHED POLYMERS AND METHODS FOR THEIR SYNTHESIS AND USE	PCT/US2007/021476
POLYMERS FUNCTIONALIZED WITH HALOSILANES CONTAINING AN AMINO GROUP	PCT/US2008/007601
POLYMERS FUNCTIONALIZED WITH HETEROCYCLIC NITRILE COMPOUNDS	PCT/US2008/011725
FUNCTIONALIZED POLYMER AND METHODS FOR MAKING AND USING	PCT/US2008/088366
METHOD FOR BULK POLYMERIZATION	PCT/US2009/039639
POLYMERS FUNCTIONALIZED WITH IMIDE COMPOUNDS CONTAINING A PROTECTED AMINO GROUP	PCT/US2009/049187
RUBBER ARTICLES SUBJECTED TO REPEATED DEFORMATION AND COMPOSITIONS FOR MAKING THE SAME	PCT/US2009/053857
POLYMERS FUNCTIONALIZED WITH POLYCYANO COMPOUNDS	PCT/US2010/021783
PROCESS FOR PRODUCING POLYDIENES	PCT/US2010/039793
PROCESS AND CATALYST SYSTEM FOR POLYDIENE PRODUCTION	PCT/US2010/046482
POLYMERS FUNCTIONALIZED WITH POLYOXIME COMPOUNDS AND METHODS FOR THEIR MANUFACTURE	PCT/US2010/061476

## Schedule A (continued)

Title	Appln No.
POLYMERS FUNCTIONALIZED WITH NITRILE COMPOUNDS CONTAINING A PROTECTED AMINO GROUP	PCT/US2011/022210
PROCESS FOR PRODUCING POLYDIENES	PCT/US2011/051717
POLYMERS FUNCTIONALIZED WITH OXIME COMPOUNDS CONTAINING AN ACYL GROUP	PCT/US2011/064111
BULK POLYMERIZATION OF CONJUGATED DIENES USING A NICKEL-BASED CATALYST SYSTEM	PCT/US2011/068069
LANTHANIDE COMPLEX CATALYST AND POLYMERIZATION METHOD EMPLOYING SAME	PCT/US2012/023905
METAL COMPLEX CATALYSTS AND POLYMERIZATION METHODS EMPLOYING SAME	PCT/US2012/023906
LANTHANIDE COMPLEX CATALYST AND POLYMERIZATION METHOD EMPLOYING SAME	PCT/US2012/023909
POLYMERS FUNCTIONALIZED WITH A CARBOXYLIC OR THIOCARBOXYLIC ESTER CONTAINING A SILYLATED AMINO GROUP	PCT/US2012/031139
POLYMERS FUNCTIONALIZED WITH LACTONES OR THIOLACTONES CONTAINING A PROTECTED AMINO GROUP	PCT/US2012/053326
METHOD FOR PRODUCING POLYDIENES AND POLYDIENE COPOLYMERS WITH REDUCED COLD FLOW	PCT/US2012/065759
PROCESS FOR PRODUCING POLYDIENES	PCT/US2012/065808
FUNCTIONALIZED POLYMER	PCT/US2012/070898
BULK POLYMERIZATION PROCESS FOR PRODUCING POLYDIENES	PCT/US2012/071702
PROCESSES FOR THE PREPARATION OF HIGH-CIS POLYDIENES	PCT/US2013/027905
PROCESS FOR PRODUCING POLYDIENES	PCT/US2013/030349
ORGANOMETALLIC CATALYST COMPLEX AND POLYMERIZATION METHOD EMPLOYING SAME	PCT/US2013/062611
POLYMERS FUNCTIONALIZED WITH HETEROCYCLIC IMINES	PCT/US2014/021565
POLYMERS FUNCTIONALIZED WITH IMINE COMPOUNDS CONTAINING A CYANO GROUP	PCT/US2014/058563
PROCESS TO PRODUCE BLENDS OF SYNDIOTACTIC 1,2-POLYBUTADIENES AND CIS-1,4-POLYBUTADIENES VIA BULK POLYMERIZATION	PCT/US2014/068297
METHOD FOR PRODUCING POLYDIENES AND POLYDIENE COPOLYMERS WITH REDUCED COLD FLOW	PCT/US2015/053986
POLYMERS FUNCTIONALIZED WITH PROTECTED OXIME COMPOUNDS CONTAINING A CYANO GROUP	PCT/US2015/029433
AGED LANTHANIDE-BASED CATALYST SYSTEMS AND THEIR USE IN THE PREPARATION OF CIS-1, 4-POLYDIENES	PCT/US2016/015328

# Schedule B

Bridgestone Invention Disclosure Form Title	Bridgestone Docket Number
POLYMERIZATION PROCESS	P01077US0A
BULK POLYMERIZATION PROCESS	P03035US0ABSJ
METHOD FOR PRODUCING CIS-1,4-POLYDIENES	P04038US0ABSJ
ELASTOMERIC COMPOSITIONS	P05095US0ABSJ
BULK POLYMERIZATION PROCESS	P06092US0ABSJ
MODIFIED CIS-1,4-POLYDIENE	P10159US0A
MODERATED POLYMERIZATION OF CONJUGATED DIENES	P11181US0A
MODERATED POLYMERIZATION OF CONJUGATED DIENES	P12048US0A
METHOD FOR COPOLYMERIZATION OF CONJUGATED DIENES	P12127US0A
METHOD FOR PRODUCING CIS-1,4-POLYDIENES	P12227US0A
COUPLING AGENTS FOR PREVENTING POLYMER COLD FLOW	P13033US0A
FUNCTIONALIZED POLYMERS	P13034US0A
FUNCTIONALIZED POLYMERS	P13199US0A
PROCESS FOR THE SYNTHESIS OF POLYMERS	P13221US0A
FUNCTIONALIZED POLYMERS	P14278US0A
SYNTHESIS OF HIGH MOLECULAR WEIGHT POLYISOPRENE	P14286US0A
FUNCTIONALIZED POLYMERS	P16002US0A
FUNCTIONALIZED POLYMERS	P16015US0A