



NOAA Chemical Sciences Laboratory

Technology Transfer & Patents (2015 – 2020)

Effective Date	Title/Description	Inventor	Actions	NOAA Technology Partnerships Office (TPO) Notes
15 July 2015	Portable Aerosol Generator (PAG)	Ru-Shan Gao	License - Handix	IP-106: Filed provisional patent and licensed to Handix under the provisional application. A full patent application was not filed, so the technology is now in the public domain.
15 July 2015	Printed Optical Particle Spectrometer (POPS)	Ru-Shan Gao	Patent License (Handix)	IP-97: Filed provisional patent and licensed to Handix under the provisional application. A full patent application was not filed, so the technology is now in the public domain.
5 August 2015	BeagleBone Controller Software Package	Ru-Shan Gao	Unprotected	IP-124 - Disclosed to TPO. In Public Domain - Provided to Handix Scientific Aug 2016. Successful software Tech Transfer executed by CSL.
12 May 2016	Mini Scanning Aerosol Sun Photometer (mini-SASP)	Dan Murphy	Patent CRADA - Sigma Space	IP-107 - Solar Interferometer. Unprotected. CRADA 174 executed with Sigma Space to commercialize. TPO needs to follow up on results, but classified as a successful technology transfer.
18 July 2017 (Update: 26 November 2020)	Miniature Open Path (OP) Optical Cell for Cavity Ring-Down Spectrometer (CRDS)	Dan Murphy	Patent License - Nikira Labs	IP-85: US Patent 9709491 awarded in 2017. Miniature version was licensed separately, but the underlying patent is the same as the full sized OP-CRDS. Technology made available under SBIR Tech Transfer award. Active R&D (non-commercial) license with Nikira Labs. Expecting to negotiate commercial license in 2021.

IP-XXX: Intellectual Property label assigned by TPO for internal tracking
CRADA: Cooperative Research and Development Agreement
SBIR: Small Business Innovation Research Grant

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18 July 2017 (Update: 26 November 2020)	Open Path (OP) Cell for Cavity Ring-Down Spectrometer (CRDS) Aircraft Sample System	Dan Murphy	Patent License - Handix	IP-112: Disclosure received. Determined to be a separate invention from IP-85 (OP-CRDS and Mini-OPCRDS). Patent has not been filed to date. TPO was waiting for additional proof of concept from science team.
18 July 2017 (Update: 26 November 2020)	Open Path (OP) Optical Cell for Cavity Ring-Down Spectrometer (CRDS)	Dan Murphy	Patent License - Handix	IP-85: US Patent 9709491 awarded in 2017. Exclusive license for the full-sized OP-CRDS provided to Handix Scientific. Successful technology transfer.
12 September 2017 (Update: 8 October 2019)	S-Curve Time-of-Flight Mass Spectrometer (S-TOF)	Dan Murphy	Patent	IP-100: Patent issued in 2017. TPO is seeking commercial partners
15 November 2017	Cavity Ring-Down Spectrometer - NO _y , NO ₂ , NO (CARDS)	Steven Brown	Patent SBIR effort - High Precision Devices	IP-37 - SBIR Complete - Pending return of tech to NOAA due to company sale. TPO will seek to license commercial version
13 June 2019	Micro Piezo Pump	Ru-Shan Gao	License - Handix	IP-148 - Provisional patent application filed. Licensed to Handix Scientific. Full patent application was not filed, so the technology is in the public domain and the license has expired. Successful technology transfer.
1 February 2020	LIDAR Motion Stabilization System for mobile platforms (ships, vehicles)	Alan Brewer	Proof of Concept on ship (on NOAA Ship <i>Ronald H. Brown</i> during ATOMIC field campaign)	IP-175 - Per Bayh-Dole requirements, referred to University of Colorado for licensing decisions
8 July 2020	Laser-Induced Fluorescence detection of NO (LIF-NO)	Andrew Rollins	Patent Pending	IP-144 - Expecting US Patent and Trademark Office to review the case in 2021.
4 August 2020	Compact, Flexible, Robust Micropulsed Doppler LIDAR	Alan Brewer et al	Publication	IP-176 - Inventor did not pursue with TPO or disclose formally. University ownership under Bayh-Dole likely. File is closed.
21 September 2020	Aerosol Bag Collector (ABC)	Ru-Shan Gao	Possible license	IP-174 - Pending follow up action from TPO
23 November 2020	NightFox payload (Airborne Wildfire Spectral Mapper, AWSM)	Ru-Shan Gao	Possible license	IP-167-170: TPO has broken this system out into individual components (Spectral Mapper, Low-Cost Short-Range Infrared (SWIR), Two-Band Scanner, Control Software). TPO received disclosure. University of Colorado is awaiting disclosure from their employees in order to move forward on license inquiry.
1 August 2021	LIDAR Motion Stabilization System for aircraft	Alan Brewer	Development	New - disclosure not yet received

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1 August 2021	LIDAR Scanning System for Aircraft window	Alan Brewer	Development	New - disclosure not yet received
N/A	Method to Control Aerosol Bounce in a Vacuum	Dan Murphy	Unprotected - disclosure	IP-125 - No action to date. TPO needs to revisit
N/A	Photo-Acoustic Spectrometer (PAS)	Dan Lack	Possible license	IP-174: Email received, but no formal invention disclosure. Original invention appears to be owned by Univ of Wyoming, but there is a new version developed by Nick Wagner that could be disclosed to TPO and pursued, if desired.

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