IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

SUPER RESOLUTION TECHNOLOGIES LLC,	§	
Plaintiff,	§	**Civil Action No. 4:14-cv-00067**
v.	§	**JURY TRIAL DEMANDED**
CARL ZEISS MICROSCOPY GMBH & CARL ZEISS MICROSCOPY, LLC	§	
Defendants.	§	

PLAINTIFF SUPER RESOLUTION TECHNOLOGIES LLC'S
FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Super Resolution Technologies LLC ("Super Resolution Technologies") files this First Amended Complaint against Defendants Carl Zeiss Microscopy GmbH and Carl Zeiss Microscopy, LLC (collectively, "Zeiss") for patent infringement under 35 U.S.C. § 271 and in support thereof would respectfully show the Court the following:

THE PARTIES

1. Plaintiff Super Resolution Technologies is a Texas limited liability company and maintains its principal place of business at 2400 Dallas Parkway, Suite 200, Plano, Texas 75093.

2. Defendant Carl Zeiss Microscopy GmbH is a German limited liability company with headquarters at Kistlerhofstrasse 75, 81379 Munich, Germany.

3. Defendant Carl Zeiss Microscopy, LLC is a New York limited liability company with a principal place of business at One Zeiss Drive, Thornwood, New York 10594.

JURISDICTION AND VENUE

4. This is an action for patent infringement arising under the patent laws of the United States, Title 35, United States Code. This Court has exclusive subject matter jurisdiction

over this case for patent infringement under 28 U.S.C. § 1338.

5. Venue is proper in the Southern District of Texas under 28 U.S.C. §§ 1391 and 1400(b).

6. This Court has personal jurisdiction over Zeiss. Zeiss has conducted and does conduct business in the State of Texas. Zeiss, directly or through subsidiaries or intermediaries (including distributors, retailers, and others) ships, distributes, offers for sale, sells, and advertises its products and/or services in the United States, the State of Texas, and the Southern District of Texas. As described below, Zeiss has used products in an infringing manner, including in demonstrations to potential customers, in the State of Texas, including in this District. Zeiss has committed acts of patent infringement within the State of Texas and more specifically, within the Southern District of Texas.

ASSERTED PATENTS

7. On February 7, 2012, United States Patent No. 8,110,405 ("the '405 patent") entitled "Fluorescent Nanoscopy Method" duly and legally issued with Andrey Alexeevich Klimov, Dmitry Andreevich Klimov, Evgeniy Andreevich Klimov, and Tatiana Vitalyevna Klimova as the named inventors. Super Resolution Technologies owns all rights, title, and interest in the '405 patent, including all rights to recover damages for infringement of the '405 patent. A copy of the '405 patent is attached as Exhibit A.

8. On December 18, 2012, United States Patent No. 8,334,143 ("the '143 patent") entitled "Fluorescent Nanoscopy Method" duly and legally issued with Andrey Alexeevich Klimov, Dmitry Andreevich Klimov, Evgeniy Andreevich Klimov, and Tatiana Vitalyevna Klimova as the named inventors. Super Resolution Technologies owns all rights, title, and interest in the '143 patent, including all rights to recover damages for infringement of the '143 patent. A copy of the '143 patent is attached as Exhibit B.

9. On March 11, 2014, United States Patent No. 8,668,872 ("the '872 patent") entitled "Fluorescent Nanoscopy Device and Method" duly and legally issued with Andrey Alexeevich Klimov, Dmitry Andreevich Klimov, Evgeniy Andreevich Klimov, and Tatiana Vitalyevna Klimova as the named inventors. Super Resolution Technologies owns all rights, title, and interest in the '872 patent, including all rights to recover damages for infringement of the '872 patent. A copy of the '872 patent is attached as Exhibit C.

COUNT I
INFRINGEMENT OF THE '405 PATENT BY ZEISS

10. Super Resolution Technologies incorporates by reference paragraphs 1–9 above as if set forth fully herein. As described below, Zeiss has infringed and/or continues to infringe the '405 patent.

11. Zeiss sells, offers to sell, and uses two super-resolution microscope systems, the ELYRA PS.1 and ELYRA P.1 (collectively, the "ELYRA systems"), which are used to perform an imaging method referred to as PALM, which stands for photo-activated localization microscopy. Zeiss describes the basic principles of the PALM imaging process (referred to herein as "PALM imaging") as follows:

> Using photoactivatable fluorescent proteins, it is possible to selectively switch on thousands of sparse subsets of molecules in a sequential manner. The basic principles behind PALM is to start with the vast majority of the molecules in the inactive state (in effect, not contributing fluorescence emission). A small fraction (less than 1 percent) is photoactivated or photoconverted using a brief pulse of ultraviolet or violet light to render that subset fluorescent. The activated molecules are then imaged and localized to produce nanometer-level precision coordinates, followed by removal from the larger set of unactivated molecules by photobleaching. In the next step, a second fraction of molecules is photoactivated, localized, and eliminated by photobleaching. The process is repeated many thousands of times until the molecular coordinates of all labeled molecules are obtained. The PALM image is a composite of all the single molecule coordinates. As new fluorescent probes for PALM are developed, the photoconversion and readout wavelengths are likely to ultimately span the entre ultraviolet, visible, and near-infrared spectral regions.

Palm Basics Article, *available at* http://zeiss-campus.magnet.fsu.edu/tutorials/superresolution/palmbasics/index.html (attached as Exhibit D). The ELYRA P.1 is specifically designed to perform PALM imaging, and the ELYRA PS.1 is designed to perform both PALM imaging and another imaging process called SIM. ELYRA Brochure at 8 & 10 (excerpts attached as Exhibit E). Zeiss' own use of the ELYRA PS.1 and ELYRA P.1 to perform PALM imaging directly infringes at least claim 1 of the '405 patent.

12. Zeiss has demonstrated PALM imaging with either the ELYRA PS.1 or ELYRA P.1 for customers and/or potential customers. For example, Zeiss presented a seminar at the Texas A&M University Veterinary Clinical Sciences Building on June 5, 2013 and had an ELYRA system on campus for hands-on demonstrations of PALM imaging from June 3 to June 19, 2013. Zeiss also demonstrated PALM imaging with an ELYRA system from August 19 to August 29, 2013 at Case Western Reserve University in Ohio. Zeiss also demonstrated an ELYRA system at the Purdue Bioscience Imaging Facility on February 7, 2012. Zeiss' use of ELYRA systems to perform PALM imaging, including at least in the above-described demonstrations, directly infringes at least claim 1 of the '405 patent, in accordance with 35 U.S.C. § 271(a).

13. In October 2007, Dmitry Klimov, an inventor of the '405 patent, contacted Parviz Farmanara (Zeiss) regarding a potential collaboration. Mr. Klimov advised Mr. Farmanara of the PCT application number and the Russian patent number that are priority documents to the '405 patent. The correspondence between the two indicates that Zeiss undertook an analysis of the priority documents. The '405 patent contains the same disclosure as the PCT application. Zeiss therefore either had notice of the '405 patent or was willfully blind to it.

14. Zeiss sells ELYRA systems to customers and instructs customers on how to use the ELYRA PS.1 and/or ELYRA P.1 to perform PALM imaging, including through hands-on

demonstrations such as those discussed above. *See, e.g.*, Introduction to Photoactivated Localization Microscopy (PALM) article, *available at* http://zeiss-campus.magnet.fsu.edu/print/superresolution/palm/introduction.html (attached as Exhibit F); & Practical Aspects of Photoactivated Localization Microscopy (PALM), *available at* http://zeiss-campus.magnet.fsu.edu/print/superresolution/palm/practicalaspects.html (attached as Exhibit G).

15. Zeiss began leasing an ELYRA PS.1 to the University of Delaware Bio-Imaging Center in September 2012. Zeiss sold an ELYRA PS.1 to Oregon Health & Science University. Zeiss also sold an ELYRA system to the Harvard Center for Biological Imaging in approximately February 2012. Zeiss sold an ELYRA PS.1 to Ohio State University at its Advanced Light Microscopy Core. On information and belief, Zeiss has instructed and/or made available or provided ELYRA manuals, brochures, and/or instructive articles to researchers at each of the institutions it has sold or leased an ELYRA system to and those researchers have used and/or currently use the ELYRA system to perform PALM imaging.

16. Zeiss has sold and/or is selling ELYRA systems to other customers throughout the United States and has instructed and/or is instructing its customers to use the ELYRA systems to perform PALM imaging. Zeiss therefore indirectly infringes by inducing infringement by others, such as ELYRA system end-user customers, in accordance with 35 U.S.C. § 271(b), because Zeiss has actively induced and/or is inducing its customers to directly infringe the ’405 patent.

17. Zeiss also indirectly infringes the ’405 patent by contributing to infringement by others, such as ELYRA P.1 end-user customers, in accordance with 35 U.S.C. § 271(c), because Zeiss offers to sell or sells within the United States a component of a patented machine, manufacture, combination, or composition, or a material or apparatus for use in practicing a patent process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or

commodity of commerce suitable for substantial non-infringing use. Specifically, as described above, Zeiss sells or offers to sell the ELYRA P.1, which is especially made for PALM imaging—a process that infringes at least method claim 1 of the ’405 patent. The ELYRA P.1 is not a staple article or commodity of commerce suitable for substantial non-infringing use.

18. Based on Zeiss’ prior notice of the ’405 patent and/or its willful blindness to the ’405 patent, Zeiss’ infringement of the ’405 patent has been willful.

COUNT II
INFRINGEMENT OF THE ’143 PATENT BY ZEISS

19. Super Resolution Technologies incorporates by reference paragraphs 1–18 above as if set forth fully herein. As described below, Zeiss has infringed and/or continues to infringe the ’143 patent.

20. The ’143 patent is a continuation of the application that issued as the ’405 patent, which is a continuation of the patent that issued as the ’634 patent. As described above, Zeiss had notice of the PCT application and Russian priority document to the ’405 patent. Zeiss therefore either had notice of the ’143 patent or was willfully blind to it.

21. Zeiss has directly infringed and/or is infringing at least claim 1 of the ’143 patent by having performed or performing three-dimensional (“3D”) PALM imaging on ELYRA systems, in accordance with 35 U.S.C. § 271(a).

22. 3D PALM imaging is PALM imaging that collects information on the positions in the z-axis in addition to the information from the x-axis and y-axis positions. Zeiss described 3D PALM imaging in its press release on November 11, 2013 announcing the availability of this new technology as:

> In PALM, photo-switchable fluorescent molecules are sparsely activated so that only one out of many will be in its on-state within a single point spread function (PSF). In 3D, the PSF shape codes for the z-position. The localizations are plotted in a new image to create the super-resolved image. . . . Sophisticated

> algorithms relate photon statistics to precision information in all directions, so researchers can display their structures fully rendered in 3D.

See November 11, 2013 Press Release, *available at* http://microscopy.zeiss.com/microscopy/en_de/dynamic-content/news/2013/3D-PALM.html (attached as Exhibit H).

23. Based on Zeiss' prior notice of the '143 patent and/or its willful blindness to the '143 patent, Zeiss' infringement of the '143 patent has been willful.

COUNT III
INFRINGEMENT OF THE '872 PATENT BY ZEISS

24. Super Resolution Technologies incorporates by reference paragraphs 1–23 above as if set forth fully herein. As described below, Zeiss has infringed and/or continues to infringe the '872 patent.

25. The '872 patent is a continuation of the application that issued as the '143 patent, which is a continuation of the patent that issued as the '405 patent, which is a continuation of the patent that issued as the '634 patent. As described above, Zeiss had notice of the PCT application and Russian priority document to the '634 patent. In addition, Zeiss had notice of infringement regarding the '405 and '143 patents as of the filing date of the Complaint (Dkt. No. 1). The '872 patent issued after the filing of the Complaint (Dkt. No. 1). Zeiss therefore either had notice of the '872 patent or was willfully blind to it.

26. Pursuant to 35 U.S.C. § 271(a), Zeiss has directly infringed and/or is infringing at least claim 1 of the '872 patent by making, using, selling, and/or offering to sell ELYRA systems.

27. Based on Zeiss' prior notice of the '872 patent and/or its willful blindness to the '872 patent, Zeiss' infringement of the '872 patent has been willful.

DEMAND FOR JURY TRIAL

Super Resolution Technologies demands a jury for all issues so triable.

PRAYER FOR RELIEF

WHEREFORE, Super Resolution Technologies prays for the following relief:

1. A judgment that Zeiss has directly infringed the ’405 patent, induced infringement of the ’405 patent, and/or contributorily induced the ’405 patent;

2. A judgment that Zeiss has directly infringed the ’143 patent;

3. A judgment that Zeiss has directly infringed the ’872 patent;

4. A preliminary and permanent injunction preventing Zeiss and its respective officers, directors, agents, servants, employees, attorneys, licensees, successors, and assigns, and those in active concert or participation with any of them, from directly infringing, inducing the infringement of, or contributorily infringing the ’405 patent;

5. A preliminary and permanent injunction preventing Zeiss and its respective officers, directors, agents, servants, employees, attorneys, licensees, successors, and assigns, and those in active concert or participation with any of them, from directly infringing the ’143 patent;

6. A preliminary and permanent injunction preventing Zeiss and its respective officers, directors, agents, servants, employees, attorneys, licensees, successors, and assigns, and those in active concert or participation with any of them, from directly infringing the ’872 patent;

7. A judgment that Zeiss’ infringement of the ’405, ’143, and ’872 patents has been willful;

8. A ruling that this case be found exceptional under 35 U.S.C. § 285, and a judgment awarding Super Resolution Technologies its attorney’s fees in prosecuting this action;

9. A judgment and order requiring Zeiss to pay Super Resolution Technologies’ damages under 35 U.S.C. § 284, including supplemental damages for any continuing post-verdict

infringement up until the entry of final judgment, with an accounting, as needed, and treble damages for willful infringement as provided for by 35 U.S.C. § 284;

10. A judgment and order requiring Zeiss to pay Super Resolution Technologies the costs of this action (including all disbursements);

11. A judgment and order requiring Zeiss to pay Super Resolution Technologies pre-judgment and post-judgment interest on the damages awarded;

12. A judgment and order requiring that, in the event a permanent injunction preventing future acts of infringement is not granted, that Super Resolution Technologies be awarded a compulsory ongoing licensing fee; and

13. Such other and further relief as the Court may deem just and proper.

DATED: April 16, 2014

Respectfully submitted,

/s/ David K. Wooten

Danny L. Williams
Texas Bar No. 21518050
S.D. Tex. No. 406
David K. Wooten
Texas Bar No. 24033477
S.D. Tex. No. 30375
Leisa Talbert Peschel
Texas Bar No. 24060414
S.D. Tex. No. 882947
WILLIAMS MORGAN, P.C.
10333 Richmond, Suite 1100
Houston, Texas 77042
Telephone: (713) 934-7000
Facsimile: (713) 934-7011
danny@wmalaw.com
dwooten@wmalaw.com
lpeschel@wmalaw.com

Attorneys for Super Resolution Technologies LLC