Filed by Gemphire Therapeutics Inc. pursuant to Rule 425 under the Securities Act of 1933, as amended and deemed filed pursuant to Rule 14a-12 under the Securities Exchange Act of 1934, as amended Subject Company: Gemphire Therapeutics Inc. Subject Company's SEC File No.: 001-37809

Gemphire Therapeutics and NeuroBo Pharmaceuticals Announce Merger Agreement to Advance a Neurodegenerative Disease Company

Transaction to Create Nasdaq-listed Biotechnology Company Focused on Advancing NeuroBo's Clinical-Stage Pipeline

NeuroBo Poised to Advance Lead Drug Candidate into Phase 3 Trials for Neuropathic Pain Indications

NeuroBo Recently Received Aggregate Gross Proceeds of \$24.24 Million in Series B Financing

Gemphire Out-Licenses Gemcabene to Beijing SL Pharmaceutical Co. for Chinese Market

Companies to Host Conference Call at 8:30 a.m. ET on July 25, 2019

Livonia, MI and Boston, MA, July 24, 2019—Gemphire Therapeutics Inc. (Gemphire) (Nasdaq: GEMP), a clinical-stage biopharmaceutical company focused on developing therapies for the treatment of dyslipidemia as well as nonalcoholic fatty liver disease, and NeuroBo Pharmaceuticals, Inc. (NeuroBo), a privately-held clinical-stage biotechnology company focused on novel, disease-modifying therapies for neurodegenerative diseases today jointly announced that they have entered into a definitive agreement whereby NeuroBo will merge with a wholly-owned subsidiary of Gemphire in an all-stock transaction. Upon completion of the merger, Gemphire will change its name to NeuroBo Pharmaceuticals, Inc., and plans to change its ticker symbol on the Nasdaq Capital Market to "NRBO." The merged company will focus on the development of NeuroBo's clinical-stage drug candidates for the treatment of neurodegenerative diseases.

NeuroBo is focused on the development of a treatment for diabetic neuropathic pain (DNP), with its lead drug candidate, NB-01, in Phase 3 clinical development as a first-line, disease-modifying therapy. NeuroBo's second drug candidate, NB-02, is in development for the treatment of neurodegenerative diseases associated with the pathological dysfunction of the amyloid-beta and tau proteins in the human brain, which include Alzheimer's disease and tauopathies. NeuroBo believes that leveraging the therapeutic properties of its natural product-based platform will drive a paradigm shift in the treatment of DNP and other neurodegenerative diseases where drug safety combined with efficacy is a strong unmet need.

NeuroBo licensed NB-01 from Korean pharmaceutical company Dong-A ST. NB-01 has successfully completed Korean and U.S. Phase 2 proof-of-concept clinical trials, showing that NB-01 provided significant relief of diabetic neuropathic pain with minimal side effects, compared to placebo. Phase 3 clinical trials are expected to begin in the fourth quarter of 2019. NeuroBo acquired NB-02 outright from Dong-A ST.

"We are excited about the opportunities and resources that will become available to NeuroBo and its therapeutic pipeline as a result of the merger," explained John L. Brooks III, president and chief executive officer, NeuroBo Pharmaceuticals. "As we move towards developing both NB-01 and NB-02, we believe that having shares publicly traded on Nasdaq will provide greater opportunity to advance our therapeutic pipeline and corporate strategy."

Today, Gemphire also announced that the company has signed an out-licensing partnership with Beijing SL Pharmaceutical Co. Ltd. to advance its drug candidate, gemcabene, into the Chinese market. This partnership is expected to provide an upfront gross payment of \$2.5 million to Gemphire and back end milestone and royalty payments to the combined company if certain development and commercialization milestones are met.

"NeuroBo represents an ideal merger partner for us," stated Dr. Steve Gullans, president and chief executive officer of Gemphire. "NeuroBo has a compelling Phase 3 program with NB-01 in diabetic neuropathic pain and a strong team to advance its pipeline. We evaluated numerous potential merger partners and recognized that NeuroBo has a solid base of investors and the potential to deliver significant value based on its pipeline assets. The NeuroBo merger complements our partnership with Beijing SL Pharmaceutical Co., and together, these relationships will enable us to continue to advance gemcabene toward a Food and Drug Administration (FDA) partial clinical hold decision and potentially lead to a beneficial outcome for Gemphire shareholders who will hold contingent value rights."

About the Proposed Merger Transaction

On a pro forma basis and based upon the number of shares of Gemphire common stock to be issued in the merger, the pre-merger Gemphire shareholders will own approximately 4.06% of the post-merger combined company and the pre-merger NeuroBo investors will own approximately 95.94% of the post-merger combined company on a fully-diluted basis. The actual allocation will be subject to adjustment based on Gemphire's net cash balance at the time of the closing of the merger as well as any additional Series B capital above the minimum required amount and up to a total of \$50 million that NeuroBo may secure at or before the closing of the merger. The transaction has been approved by the board of directors of both companies. The merger is expected to close in the second half of 2019, subject to the approval of the stockholders of each company, as well as other customary closing conditions.

In addition, Gemphire stockholders of record as of immediately prior to the effective time of the merger will receive non-transferable contingent value rights (CVRs) entitling the holders to receive in the aggregate, after the retention of \$500,000 by the combined company and certain other permitted deductions, 80% of the net proceeds, if any, received during the 15-year period following the merger from transactions entered into during the 10-year period following the merger involving the sale or license of gemcabene.

Ladenburg Thalmann & Co. Inc. is acting as financial advisor to Gemphire for the transaction and Consilium Partners Inc. is acting as financial advisor to NeuroBo for the transaction. Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C. is serving as legal counsel to NeuroBo. Honigman LLP is serving as legal counsel to Gemphire.

Management and Organization

Following the merger, John L. Brooks III will be appointed to serve as the post-merger combined company's president and chief executive officer. The board of directors for the post-merger combined company will be comprised of six directors, one of whom will be Steve Gullans, Ph.D., Gemphire's current president and chief executive officer and member of the Gemphire board of directors.

Conference Call

Gemphire and NeuroBo will host a conference call at 8:30 a.m. ET on July 25, 2019 to discuss the proposed merger transaction. The conference call may be accessed by dialing 877-451-6152 for U.S. callers and 201-389-0879 for international callers at least five minutes prior to the start of the call and providing the passcode 13693096. Additionally, the live, listen-only webcast of the conference call can be accessed by visiting the investors and media section of the Gemphire website at www.gemphire.com, or the investors and media section of the NeuroBo website at www.neurobopharma.com. A webcast replay will be available on the investors and media sections of the Gemphire website for all interested parties following the call and will be archived and available for 90 days.

About NeuroBo Pharmaceuticals

NeuroBo Pharmaceuticals Inc. is focused on novel treatments for neurodegenerative diseases affecting millions of patients worldwide. The company's novel lead candidate NB-01 is a drug candidate for diabetic neuropathic pain. NB-01 is a natural product candidate that restores nerve growth factor levels in pre-clinical models of pain. In Phase 2 clinical trials, NB-01 has shown efficacy comparable to existing therapies and a superior safety profile. The Phase 3 program with NB-01 is expected to begin in Q4 of 2019, studying diabetic

neuropathic pain patients in the U.S. and a number of other countries. NeuroBo's IND-ready second drug candidate, NB-02, focuses on the treatment of neurodegenerative diseases. NeuroBo Pharmaceuticals, based in Boston, MA, was jointly founded by Dr. Roy Freeman, professor of neurology at Harvard Medical School and renowned expert in neuropathic pain, and JK BioPharma Solutions, a biotechnology consulting company, to commercialize natural product-based research into ethical medicines.

About Gemphire

Gemphire is a clinical-stage biopharmaceutical company that is committed to helping patients with cardiometabolic disorders, including dyslipidemia and NASH. The company is focused on providing new treatment options for cardiometabolic diseases through its complementary, convenient, cost-effective product candidate, gemcabene, as an add-on to the standard of care, especially with statins that will benefit patients, physicians, and payers. Gemphire's Phase 2 clinical program is evaluating the efficacy and safety of gemcabene in hypercholesterolemia, hypertriglyceridemia and fatty liver disease, including Familial Hypercholesterolemia (FH), Severe Hypertriglyceridemia (SHTG), Non-alcoholic Steatohepatitis (NASH)/Non-alcoholic Fatty Liver Disease (NAFLD) and Atherosclerotic Cardiovascular Disease (ASCVD). Two Phase 2b trials supporting hypercholesterolemia and one Phase 2b trial in SHTG were recently completed under NCT02722408, NCT02634151 and NCT02944383, respectively.

Important Additional Information Will be Filed with the SEC

In connection with the proposed transaction between Gemphire and NeuroBo, the parties intend to file relevant materials with the SEC, including a registration statement on Form S-4 that will contain a combined proxy statement/prospectus/information statement. INVESTORS AND STOCKHOLDERS OF GEMPHIRE AND NEUROBO ARE URGED TO READ THESE MATERIALS CAREFULLY AND IN THEIR ENTIRETY WHEN THEY BECOME AVAILABLE BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION ABOUT GEMPHIRE, NEUROBO, THE PROPOSED MERGER AND RELATED MATTERS. Investors and shareholders will be able to obtain free copies of the proxy statement/prospectus/information statement and other documents filed by Gemphire with the SEC (when they become available) through the website maintained by the SEC at www.sec.gov. In addition, investors and shareholders will be able to obtain free copies of the proxy statement/prospectus/information statement and other documents filed by Gemphire with the SEC by written request to: Gemphire Therapeutics Inc., 17199 N. Laurel Park Drive, Suite 401, Livonia, MI, 48152, Attention: Corporate Secretary. Investors and stockholders are urged to read the proxy statement/prospectus/information statement and the other relevant materials when they become available before making any voting or investment decision with respect to the proposed transaction.

No Offer or Solicitation

This communication shall not constitute an offer to sell, the solicitation of an offer to sell or an offer to buy or the solicitation of an offer to buy any securities, nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction. No offer of securities shall be made except by means of a prospectus meeting the requirements of Section 10 of the Securities Act of 1933, as amended.

Participants in the Solicitation

Gemphire, and its directors and executive officers, and NeuroBo, and its directors and executive officers, may be deemed to be participants in the solicitation of proxies from the stockholders of Gemphire in connection with the proposed merger. Information regarding the special interests of these directors and executive officers in the proposed merger will be included in the proxy statement/prospectus/information statement referred to above. Additional information about Gemphire's directors and executive officers is included in Gemphire's Annual Report on Form 10-K for the year that ended December 31, 2018, filed with the SEC on March 18, 2019. These documents are available free of charge at the SEC website (www.sec.gov) and from the Corporate Secretary of Gemphire at the address above.

Forward Looking Statements

Any statements in this press release that are not statements of historical fact constitute forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These statements include, but are not limited to, statements regarding the proposed merger and other contemplated transactions (including statements relating to satisfaction of the conditions to and consummation of the proposed merger, the expected ownership of the combined company and the ability of the combined company to raise additional capital to complete its clinical programs and opportunities relating to or resulting from the merger), and statements regarding the nature, potential approval and commercial success of NeuroBo's clinical programs and pipeline, the effects of having shares of capital stock traded on the Nasdaq Capital Market, NeuroBo's and the post-merger combined company's financial resources and cash expenditures, the ability of Gemphire or the post-merger combined company to advance gemcabene through the FDA partial clinical hold and Gemphire's or the post-merger combined company's potential receipt of payments pursuant to the Beijing SL Pharmaceuticals licensing partnership. Forward-looking statements are usually identified by the use of words such as "believes," "anticipates," "expects," "intends," "plans," "ideal," "may," "potential," "will," "could" and similar expressions. Actual results may differ materially from those indicated by forward-looking statements as a result of various important factors and risks. These factors, risks and uncertainties include, but are not limited to: risks relating to the completion of the merger, including the need for stockholder approval and the satisfaction of closing conditions; risks that the conditions to the milestone and royalty payments pursuant to the licensing partnership with Beijing SL Pharmaceutical Co. may not be met; risks related to Gemphire's ability to correctly estimate and manage its operating expenses and its expenses associated with the proposed merger pending closing; the cash balances of the combined company following the closing of the merger; the ability of Gemphire to remain listed on the Nasdaq Capital Market; the risk that as a result of adjustments to the exchange ratio, Gemphire shareholders or NeuroBo stockholders could own more or less of the combined company than is currently anticipated; the risk that the conditions to payment under the CVRs will not be met and that the CVRs may otherwise never deliver any value to Gemphire stockholders; potential adverse reactions or changes to business relationships resulting from the announcement or completion of the proposed merger; the success and timing of regulatory submissions and preclinical and clinical trials; regulatory requirements or developments; changes to clinical trial designs and regulatory pathways; changes in capital resource requirements; and other factors discussed in the "Risk Factors" section of Gemphire's most recent annual report, subsequent quarterly reports and in other filings Gemphire makes with the SEC from time to time. Risks and uncertainties related to NeuroBo that may cause actual results to differ materially from those expressed or implied in any forward-looking statement include, but are not limited to: NeuroBo's plans to develop and commercialize its product candidates; the timing of completion of NeuroBo's planned clinical trials: the timing of the availability of data from NeuroBo's clinical trials; NeuroBo's plans to research, develop and commercialize its current and future product candidates; NeuroBo's ability to successfully collaborate with existing collaborators or enter into new collaborations and to fulfill its obligations under any such collaboration agreements; the clinical utility, potential benefits and market acceptance of NeuroBo's product candidates; NeuroBo's commercialization, marketing and manufacturing capabilities and strategy; NeuroBo's ability to identify additional products or product candidates with significant commercial potential; developments and projections relating to NeuroBo's competitors and its industry; the impact of government laws and regulations; NeuroBo's ability to protect its intellectual property position; and NeuroBo's estimates regarding future revenue, expenses, capital requirements and need for additional financing following the proposed transaction. In addition, the forward-looking statements included in this press release represent Gemphire's and NeuroBo's views as of the date hereof. Gemphire and NeuroBo anticipate that subsequent events and developments will cause their respective views to change. However, while Gemphire and NeuroBo may elect to update these forward-looking statements at some point in the future, Gemphire and NeuroBo specifically disclaim any obligation to do so. These forward-looking

statements should not be relied upon as representing Gemphire's or NeuroBo's views as of any date subsequent to the date hereof.

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