**RespireRx Pharmaceuticals Inc. Announces Appointment of Dr. James Cook and Dr. Jeffrey Witkin as Research Fellows**

Glen Rock, N.J., October 27, 2020 /Globe Newswire – RespireRx Pharmaceuticals Inc. (OTCQB: RSPI) ("RespireRx" or the "Company"), a leader in the discovery and development of innovative and revolutionary treatments to combat diseases caused by disruption of neuronal signaling, is pleased to announce the appointment on October 16, 2020, of Dr. James Cook and Dr. Jeffrey Witkin as Research Fellows.

Tim Jones, President and Chief Executive Officer said, ''*We are thrilled to formally welcome Dr. Cook and Dr. Witkin to the RespireRx team. In their capacities as Research Fellows, they will immediately assume roles as integral core members of our research team, reporting to Dr. Arnold Lippa, and participate as members of our Scientific Advisory Board. Their intrinsic depth of knowledge, collective academic and industry achievements in the field of neuroscience is unrivaled. Their expertise in the development of novel and innovative glutamate and GABA-A receptor neuromodulators, across a broad scope of patient -critical disorders will prove extremely valuable as we continue to grow the business; in parallel, we are actively expanding our portfolio of products, broadening our technical and regulatory asset base and in turn strengthening our already longstanding collaboration with the University of Wisconsin-Milwaukee Research Foundation 'UWMRF'*.'

**Dr. James Cook** is a Distinguished Professor of Chemistry at the University Wisconsin-Milwaukee where he co-leads a group of scientists who have synthesized and tested a broad series of novel drugs that display GABA-A receptor subtype selectivity and pharmacological specificity. He is a leading expert in GABA-A receptor drug targeting with more than 40 years' experience in organic and medicinal chemistry and more than 500 scientific publications and 60 patents.

*"As the original designer of the GABAkines licensed by RespireRx, I am very excited to be working on the research team being assembled by RespireRx to realize their therapeutic potential," said Dr. Cook*

**Dr. Jeffrey Witkin**, is a senior investigator in the Laboratory of Antiepileptic Drug Discovery that he founded with neurosurgeon Jodi L. Smith at Ascension, St. Vincent in Indianapolis, Indiana. He is also associated with the University of Wisconsin-Milwaukee where he co-led the team with Dr. Cook. He previously spent 17 years directing Neuroscience Discovery Laboratory at Lilly Research Labs where he headed biological efforts to discover multiple antidepressants and novel glutamate and GABA-A receptor neuromodulators. Several of these compounds are in clinical development for depression and epilepsy. Prior to working at the Lilly Research Labs, he headed the Drug Development Group for the intramural research

program of the NIH for 14 years. He is a world class scientist with over 220 peer-reviewed publications and multiple scientific awards and honors.

*"It is an honor to be afforded this singular opportunity to join such a capable and driven team in further progressing the expanding portfolio of highly promising neuromodulator compounds. The broad-ranging efficacy of our GABAkine candidate, KRM-II-81, in preclinical models and in human epileptic tissue, already provides compelling evidence to substantiate this compound as a next-generation antiepileptic drug. I am enthusiastically looking forward to becoming an integral part of RespireRx' bright future,"* said Dr. Witkin.

*"Our collaboration with Drs. Cook and Witkin, which began with our license agreement with UWMRF, gave us access to valuable assets that included not only certain GABAkines, but to the scientists who discovered and are developing them. Now, as an outgrowth of that unique collaboration, Drs. Cook and Witkin and certain members of their research teams are joining the RespireRx research program, while maintaining their academic affiliations. They will not only add considerable expertise to our GABAkine program, but to our AMPAkine and cannabinoid programs as well,"* said Arnold Lippa, Chief Scientific Officer.

**About RespireRx Pharmaceuticals Inc.**

RespireRx Pharmaceuticals Inc. is a leader in the discovery and development of medicines for the treatment of psychiatric and neurological disorders, with a focus on treatment options that address conditions affecting millions of people, but for which there are few or poor treatment options, including obstructive sleep apnea ("OSA"), attention deficit hyperactivity disorder ("ADHD"), epilepsy, chronic pain and recovery from spinal cord injury ("SCI"), as well as certain neurological orphan diseases. RespireRx is developing a pipeline of new drug products based on our broad patent portfolios for two drug platforms: (i) pharmaceutical cannabinoids, which include dronabinol, a synthetic form of Δ9-tetrahydrocannabinol ("Δ9-THC") that acts upon the nervous system's endogenous cannabinoid receptors and (ii) neuromodulators, which include ampakines and GABAkines, proprietary compounds that positively modulate (positive allosteric modulators or "PAMs") AMPA-type glutamate receptors and $GABA_A$ receptors, respectively

The Company holds exclusive licenses and owns patents and patent applications or rights thereto for certain families of chemical compounds that claim the chemical structures and their uses in the treatment of a variety of disorders, as well as claims for novel uses of known drugs.

***Pharmaceutical Cannabinoids*.** RespireRx is developing dronabinol, Δ-9-tetrahydocannabinol (Δ-9-THC), a synthetic version of the naturally occurring substance in the cannabis plant, for the treatment of OSA, a serious respiratory disorder that impacts an estimated 29.4 million people in the United States according to the American Academy of Sleep Medicine ("AASM"), published in August 2016. OSA has been linked to increased risk for hypertension, heart failure, depression, and diabetes, and has an annual economic cost in the United States of $162 billion according to the AASM. There are no approved drug treatments for OSA.

Two Phase 2 clinical trials have been completed demonstrating the ability of dronabinol to significantly reduce the symptoms of OSA and, subject to raising sufficient financing (of which no assurance can be provided) and pending the outcome of an intended meeting with the FDA, RespireRx believes that it will be able to commence a pharmacokinetic study for a to-be-developed new formulation followed by a Phase 3 clinical study for the treatment of OSA with the new formulation. Because dronabinol is already FDA approved for the treatment of AIDS related anorexia and chemotherapy induced nausea and vomiting, the Company further believes that its re-purposing strategy would only require approval by the FDA of a 505(b)(2) new drug application ("NDA"), an efficient regulatory pathway that allows the use of publicly available data.

***Neuromodulators***

AMPAkines. Through an extensive translational research effort from the cellular level through Phase 2 clinical trials, the Company has developed a family of novel, low impact ampakines, including CX717, CX1739 and CX1942 that may have clinical application in the treatment of CNS-driven neurobehavioral and cognitive disorders, spinal cord injury, neurological diseases, and certain orphan indications. From our ampakine platform, our lead clinical compounds, CX717 and CX1739, have successfully completed multiple Phase 1 safety trials. Both

compounds have also completed Phase 2 proof of concept trials demonstrating target engagement, by antagonizing the ability of opioids to induce respiratory depression.

Ampakines have demonstrated positive activity in animal models of ADHD, results that have been extended translationally into statistically significant improvement of symptoms observed in a Phase 2 human clinical trial of CX717 in adults with ADHD. At present, the major pharmacotherapies available for ADHD are made up of two types of drugs. Stimulants, such as amphetamine, rapidly produce robust effects, but suffer from side effects typical of stimulants, including tolerance, dependence, withdrawal and abuse. For these reasons, stimulants are scheduled by the FDA. Non-stimulants, such as Straterra® (atomoxetine) tend to be less effective than stimulants, with a much longer (approximately 4 – 8 week) latency to onset of action. In a number of animal and human studies, CX717 and other ampakines did not display any stimulant properties typically associated with drugs like amphetamine. In the Phase 2 ADHD clinical trial, statistically significant therapeutic effects were observed within one week. Therefore, we believe ampakines may represent a novel, non-stimulant treatment for ADHD with a more rapid onset of action than alternative non-stimulant treatment options.

GABAkines. Under a License Agreement with the University of Wisconsin-Milwaukee Research Foundation, Inc. ("UWMRF"), an affiliate of the University of Wisconsin-Milwaukee, RespireRx has licensed rights to certain selectively acting GABAkines that have shown impressive activity in a broad range of animal models of refractory/drug resistant epilepsy and other convulsant disorders, as well as in brain tissue samples obtained from epileptic patients. Epilepsy is a chronic and highly prevalent neurological disorder that affects millions of people world-wide. While many anticonvulsant drugs have been approved to decrease seizure probability, seizures are not well controlled and, in as many as 60-70% of patients, existing drugs are not efficacious at some point in the disease progression. We believe that the medical and patient community are in clear agreement that there is desperate need for improved antiepileptic drugs. In addition, these GABAkines have shown positive activity in animal models of traumatic brain injury, inflammatory and neuropathic pain, as well as other areas of interest. Because of their GABA receptor subunit specificity, the compounds have a greatly reduced liability to produce sedation, motor incoordination, memory impairments, tolerance and abuse liability, side effects commonly associated with non-specific GABA PAMs, such as Valium® and Xanax®.

Additional information about the Company and the matters discussed herein can be obtained on the Company's web-site at www.RespireRx.com or in the Company's filings with the Securities and Exchange Commission at www.sec.gov.

**Cautionary Note Regarding Forward-Looking Statements**

*This press release contains forward-looking statements within the meaning of Section 27A of the Securities Act, and Section 21E of the Exchange Act. In some cases, you can identify forward-looking statements by the following words: "anticipate," "assume," "believe," "continue," "could," "estimate," "expect," "intend," "may," "ongoing," "plan," "potential," "predict," "project," "should," "will," "would," or the negative of these terms or other comparable terminology, although not all forward-looking statements contain these words, and such statements may include, but are not limited to, statements regarding (i) future research plans, expenditures and results, (ii) potential collaborative arrangements, (iii) the potential utility of the Company's product candidates, (iv) reorganization plans, and (v) the need for, and availability of, additional financing. Forward-looking statements are not a guarantee of future performance or results and will not necessarily be accurate indications of the times at, or by, which such performance or results will be achieved. Forward-looking statements are based on information available at the time the statements are made and involve known and unknown risks, uncertainties and other factors that may cause our results, levels of activity, performance or achievements to be materially different from the information expressed or implied by the forward-looking statements in this report.*

*These factors include but are not limited to, regulatory policies or changes thereto, available cash, research and development results, issuance of patents, competition from other similar businesses, interest of third parties in collaborations with us, and market and general economic factors, and other risk factors.*

*We caution investors not to place undue reliance on any forward-looking statement that speaks only as of the date made and to recognize that forward-looking statements are predictions of future results, which may not occur as anticipated. Actual results could differ materially from those anticipated in the forward-looking statements and from historical results, due to risks and uncertainties described in our reports filed with the Securities and Exchange Commission (the "SEC") and others that we may consider immaterial or do not anticipate at this time. These forward-looking statements are based on assumptions regarding the Company's business and technology, which involve judgments with respect to, among other things, future scientific, economic, regulatory and competitive conditions, collaborations with third parties, and future business decisions, all of which are difficult or impossible to predict accurately and many of which are beyond the Company's control. Although we believe that the expectations reflected in our forward-looking statements are reasonable, we do not know whether our expectations will prove correct. Our expectations reflected in our forward-looking statements can be affected by inaccurate assumptions that we might make or by known or unknown risks and uncertainties. For more information about the risks and uncertainties the Company faces, see "Item 1A. Risk Factors" of the RespireRx Pharmaceuticals Inc. Annual Report of Form 10-K as of December 31, 2019. For more current information about the Company, see the Company's Quarterly Report on Form 10-Q as of June 30, 2020 as well as on our Forms 8-K filed or furnished in our filings with the SEC. Forward-looking statements speak only as of the date they are made. The Company does not undertake and specifically declines any obligation to update any forward-obligation to update any forward-looking statements or to publicly announce the results of any revisions to any statements to reflect new information or future events or developments.*

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