Introduction
The Canadian Lung Association (CLA) and the Canadian Respiratory Research Network (CRRN) are pleased to partner on the launch of jointly funded trainee awards: Breathing as One – CRRN: Fellowship and Studentship Awards. The CLA and the CRRN are offering two types of research trainee awards to the medical and scientific community: post-doctoral fellowships and PhD graduate studentships. The Lung Association - National Office will provide the administrative support for this application and review process. Information and policies are provided in the following pages.

Registration deadline: May 1, 2019 by 3:30pm EST
Application deadline: May 17, 2019 by 3:30pm EST

The forms may be downloaded from the Lung Association national website: www.lung.ca/lung-research/apply-funding

About the Lung Association Research Awards Program
The research awards program of the Lung Association was established in 1959. It is financed through donations to the provincial lung associations across Canada.
Where possible, the Lung Association partners with outside organizations to match and/or leverage available funding. Based on the success of this approach and to significantly increase the number of outstanding applicants who will receive funding, we are excited to announce that beginning in 2019, CLA research awards are awarded contingent upon the awardee securing matching funds. The formula for matching is award-dependent, as described in the funding sections below. There are a number of options for applicants to pursue matching funds as these may be contributed by a number of sources, including the trainee supervisor, host institution, Provincial Lung Association, and/or a research partner. Applicants need to identify matching funds sources and are encouraged to reach out to, their host institution, as well as other funding organizations, including provincial lung associations to determine whether they will participate in matching funds using their provincial Breathing as One funds or other available resources.

**About the Canadian Respiratory Research Network**

CRRN, in close partnership with the Canadian Lung Association, the Canadian Institutes of Health Research (CIHR), and other partners, will improve patient care and outcomes for patients with chronic respiratory disease. We will do this through creation of an enduring national network of investigators and research platforms to enable innovative, collaborative, respiratory health research that influences decision making and ensures high quality training and career development of a new generation of investigators.

**CRRN’s Mission**

The goals of the CRRN are to bring together researchers across disciplines and research themes/pillars to work together in a coordinated fashion in order to improve understanding of the origins and progression of chronic airway diseases in Canada. We will:

1. Accelerate respiratory research that has worldwide impact on improving patient care;
2. Enrich and augment opportunities for respiratory research and capacity building;
3. Train and mentor researchers with trans-disciplinary expertise who can produce cutting-edge respiratory research; and
4. Spearhead knowledge translation, educational outreach and community engagement to improve diagnosis, management, and health outcomes of patients with respiratory disease nationally and globally.

**About the Breathing as One - CRRN Fellowship and Studentship Awards**

The objective of the Breathing as One - CRRN Fellowship and Studentship awards is to build Canadian research capacity that contributes to the field of respiratory health with a specific focus on improving the understanding of the origins and
progression of chronic airway diseases in Canada. Funding may support individuals completing research related to the 4 CIHR Themes/Pillars. Your application will be reviewed in detail by at least two reviewers. The reviewers rank the applications according to:

a) The relevance to the CRRN established research projects.
b) The quality of the applicant (academic record, research experience and potential, and documented publication(s)).
c) The quality of the research project.
d) The research environment, including the person with whom the applicant intends to work.
e) The potential for the training to contribute to career development of the applicant.
f) Applicant's ability to secure matching funds for the two (2) year duration of the Fellowship or Studentship award (see section below for formulas). The applicant must include within their application a letter signed by the supervisor guaranteeing the matching funds for the duration of the award.

These awards are intended to fund trainees to complete research projects in all 4 CIHR Themes/Pillars and has targeted a goal of funding at least 50% of the fellows as clinical trainees. Applications that receive highest rankings, support the mission of the CRRN, and span across more than 1 CIHR Themes/Pillars are given funding priority. Therefore it is important that you provide all details required as clearly as possible to facilitate the review process. These awards will be administered by The Lung Association - National Office (also known as the Canadian Lung Association, or CLA) and by the CRRN. A Review Committee reviews the Breathing as One - CRRN Fellowship and Studentship applications for merit and funds are administered by The CRRN and Lung Association - National Office.

**Eligibility**

Priority will be given to a Canadian citizen, permanent Canadian resident or landed immigrant. These awards are normally held at Canadian institutions.

To be eligible for a Breathing as One - CRRN Fellowship or Studentship Award the applicant must meet the following criteria:

a) **Applicant's research project must align with CRRN's mission** – i.e. the focus of the research should be in airways disease in the context of asthma and/or COPD.

b) **Studentship applicants** - should be enrolled or accepted in a graduate (thesis-based) program at the Doctoral level at a Canadian academic institution. Individuals who have applied to a graduate program but have not received acceptance may apply for a Studentship award. The award, however, will be conditional on acceptance into the program. **Candidates are only eligible to apply for the Studentship Award in the first three (3) years of doctoral studies.**
c) **Fellowship applicants** - should be working under supervision of a faculty member at an accredited Canadian academic institution.

d) A Fellowship or Studentship awardee may not be in receipt of another major award at the same time as holding a Fellowship or Studentship Award from the Lung Association - National Office and the CRRN.

e) Individuals who currently hold and/or are being supervised by individuals holding funding from tobacco and/or cannabis industry are not eligible.

f) Applicants must be able to secure matching funds for the two (2) year duration of the Fellowship or Studentship award (see section below for formulas). The applicant must include within their application a letter signed by the supervisor guaranteeing the matching funds for the duration of the award.

**Submission Date**

- Registration deadline: **May 1, 2019 by 3:30pm EST**
- Application deadline: **May 17, 2019 by 3:30pm EST**

**Instructions for Submitting a Fellowship or Studentship Application**

The forms may be downloaded from the Lung Association website: [www.lung.ca/lung-research/apply-funding](http://www.lung.ca/lung-research/apply-funding)

1. Applicants must register at: [https://form.simplesurvey.com/f/l/bao-trainee-competition-2019-registration](https://form.simplesurvey.com/f/l/bao-trainee-competition-2019-registration) by **May 1, 2019 by 3:30pm EST**. Applicants are required to provide their name, the names of their supervisor(s) and referees, institution, the project title, keywords, and a maximum (one) 1 page abstract of your research project. The Lung Association will confirm receipt of your registration via e-mail.

2. Upload one (1) electronic copy of the application to: [https://form.simplesurvey.com/f/l/bao-trainee-competition-2019-application](https://form.simplesurvey.com/f/l/bao-trainee-competition-2019-application) by **May 17, 2019 by 3:30pm EST**. The electronic file must include a completed copy of the application form with signatures and all the relevant documents (excluding Referee Forms, which will be sent in separately by the referee). The Lung Association will confirm receipt of your application via e-mail. Please ensure that your e-mail address is included on page 1 of the application.

3. Do not use additional pages except where indicated. Keep the application as clear and concise as possible. Note that copies of your publications are not required.

4. Enter ‘Applicant’ name in header of all forms submitted.

5. Applicants are expected to include within the body of their application, and not in the appendices, all essential information required to permit assessment of the application. Additional information, such as academic transcripts, is to be included in the appendices.
6. Up-to-date official transcripts or certified true copies of transcripts for all post-secondary education are required.

Transcripts can either be forwarded directly to the Manager, National Research Programs at the Lung Association - National Office or included with the application submission.

It is your responsibility to ensure academic transcripts are received directly at the Lung Association - National Office from the institution(s) on/by May 17, 2019.

7. A completed statement from the proposed supervisor that provides an overview of the research and academic training environment. Please give details on resources, programs, technologies, etc. that will be made available to the candidate, and on specific knowledge and skills to be acquired.

8. Referee Assessment Forms are required in place of reference letters. Reference letters will not be accepted. Request only two referees to complete the Referee Assessment form. One referee assessment may come from a past or current supervisor or one co-supervisor. The other assessment must come from persons under whom the candidate has studied but who will not be involved in the applicant's proposed research program. The completed forms are not to be included with the submission but emailed directly by the referees to the Lung Association (research@lung.ca).

It is your responsibility to ensure that the Referee Assessment Forms are received by the Lung Association - National Office on/by May 17, 2019.

9. An explanation listing the period and reason for any interruption in pursuit of the candidate career either in or subsequent to training, if applicable.

10. A complete copy of the supervisor's (and co-supervisor's, if applicable) CV using the Academic version of the Common CV form (as used for CIHR). Failure to comply or the submission of an incomplete CV Module will result in the application being rejected.

11. Complete the application form, filling all the requested information and obtaining all required signatures.

General Conditions of Fellowship and Studentship Awards
The following general conditions apply to fellowships and studentship awards awarded by the Lung Association - National Office and the CRRN.

1. The CRRN and the Lung Association assume no responsibility for accidents, illness, or claims arising out of studies, work, or other activities undertaken with financial support provided by the CRRN and the Lung Association.

2. Copyright of all publications belongs to the author(s). However, in any publication arising from the studentship or fellowship supported by the CRRN and the Lung Association, acknowledgement of funding received from
The CRRN and the Lung Association is required. The successful applicant shall have the exclusive right to publish or present the Project results. In any publication or presentation of the Project results, the successful applicant shall include the CRRN on the author masthead (for example, “John Smith, Jack Black et. al. for the Canadian Respiratory Research Net. The successful applicant shall acknowledge the financial contributions of all CRRN Sponsors in all Project publications, as follows:

“The Canadian Respiratory Research Network (CRRN) is supported by grants from the Canadian Institutes of Health Research (CIHR) - Institute of Circulatory and Respiratory Health; the Canadian Lung Association (CLA); British Columbia Lung Association; and Industry Partners Boehringer-Ingelheim Canada Ltd, AstraZeneca Canada Inc. and Novartis Canada Ltd. Funding for these training awards was supported by Boehringer-Ingelheim Canada Ltd. The funding Sponsors had no role in the study design, data collection and analysis, or preparation of the manuscript.”

A copy of all manuscripts, presentations, and abstracts relating to the Project must be submitted to the CRRN Director and to the Manager, National Research Programs at the Lung Association - National Office, at the time of submission by the successful applicant to a publisher for consideration of publication.

3. It is understood that the name of the successful applicant, his/her field of study and some content of the lay abstract and final report to the CRRN and the Lung Association will be made public. Successful applicants are expected to facilitate knowledge translation in their field of expertise through presentations at conferences and/or workshops, including, where feasible, conferences/workshops sponsored by the Lung Association.

4. Any commitments (or expenditures) incurred by an award recipient either in excess of the current training funds or beyond the term of the training award are the responsibility of the recipient.

5. The award recipient (or the institution on his/her behalf) shall, if the need arises, immediately notify the Lung Association - National Office in writing of his/her inability, for any reason, to continue in the educational program for which support was awarded.

6. Normally awards support studies in a program at specific Canadian institutions with concurrence of the institution’s executive head. Transfers to another institution are not normally permitted during the course of funding.

7. The annual stipend for a Fellowship award is based on a 60:40 match formula between the CRRN, the Lung Association and the trainee’s supervisor. The matching funding can include funding from the supervisor, the host institution, and/or a research partner, including a Provincial Lung Association. The Fellowship award is valued at $45,000 or $55,000 annually (see criteria in the
table below) for a maximum of two (2) years in which the CRRN and the Lung Association will contribute either $27,000 or $33,000 (60%) annually (see criteria in the table below) and the applicant’s supervisor, host institution, and/or a partner agency is required to contribute the remaining funding $18,000 or $22,000 (40%) annually (see criteria in the table below) for the length of term for the award. Funds from the CRRN and the Lung Association will not be released until formal confirmation of matching funding is received from the supervisor.

<table>
<thead>
<tr>
<th>Research Fellowship</th>
<th>Stipend (CAD$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicants with MD, licensed in Canada</td>
<td>$55,000</td>
</tr>
<tr>
<td>Applicants with MD, not licensed in Canada</td>
<td>$45,000</td>
</tr>
<tr>
<td>Applicants holding a PhD</td>
<td>$45,000</td>
</tr>
</tbody>
</table>

8. The annual stipend for a Studentship award is based on a 50:50 match formula between the CRRN, the Lung Association and the trainee’s supervisor. The matching funding can include funding from the supervisor, the host institution, and/or a research partner, including a Provincial Lung Association. The Studentship award is valued at $21,000 per year for a maximum of two (2) years in which the CRRN and the Lung Association will contribute $10,500 (50%) annually and the applicant’s supervisor, host institution, and/or a partner agency is required to contribute the remaining funding $10,500 (50%) annually for the length of term for the award. Funds from the CRRN and the Lung Association will not be released until formal confirmation of matching funding is received from the supervisor. The Studentship award is prioritized for PhD students in their first three (3) years of a PhD program, thus candidates are only eligible to apply for the Studentship award in the first three (3) years of their doctoral studies.

9. Funds may not be matched by funds from tobacco and/or cannabis industry and/or supervisors holding funding from tobacco and/or cannabis industry.

10. Funds from the CRRN and the Lung Association are a salary or living stipend and are not to be used to pay for benefits.

11. Awards can be given for a period of two (2) years but the second year is contingent upon adequate progress and a successful renewal. A request for renewal for Year 2 is required – this must be accompanied by a progress report from the applicant AND a letter of support from the supervisor. The report will be reviewed to determine whether sufficient progress has been made for renewal. Baseline progress for renewal after Year 1 is that the awardee has at least one presentation of an abstract stemming from the originally submitted project submitted at a provincial, national or international meeting that is external to the awardee’s host institution. If adequate progress has not been made, the second year of support will not be released. A financial statement by

Guidelines and Instructions for Breathing as One Fellowship and Studentship Awards
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the Financial Officer and final progress report by the awardee are required at the end of the funding period.

12. All applications involving human/animal investigation must be accompanied by a letter of approval from the ethics committee of the university and, if applicable, other institution(s) in which the work is to be undertaken. If the ethics approval is not available at the time of submission then it needs to be sent to the Manager, National Research Programs at the Lung Association - National Office, as soon as possible. No funds will be made available until this letter of approval has been received at the Lung Association - National Office.

13. Typically awards start on September 1 of the year of the award and end on August 31 of the next year. Awards must start no later than December 1 of the year of the award.

[Box: RENASCENT Program
Breathing as One - CRRN: Fellowship and Studentship awardees may be invited to participate in the CLA RENASCENT program.]

**Review Process**

Applications will be received at the Lung Association - National Office and screened by administrative personnel for completion. The Review Committee will review all applications and supporting materials.

The Review Committee meets between May and August to make funding recommendations. Funding announcements are made in August.

A letter of notification including rationale for the decision regarding funding is sent to all applicants via email.

**Financial Administration**

1. A Fellowship or Studentship awardee may not be in receipt of another major award at the same time as holding a Fellowship or Studentship Award from the CRRN and the Lung Association - National Office.

2. Awards are for twenty-four (24) calendar months from the date stated in the letter of offer or as otherwise agreed, and the latter twelve (12) calendar months are conditional on successful renewal of the award. Release of the second year funding will be made if a satisfactory progress report is submitted.

3. Funds will be disbursed by the CRRN and the Lung Association - National Office under separate contract. If the award is accepted, the first instalment will be paid out by the CRRN in September of the year of the award. Upon renewal of the award, the second instalment will be paid out by the Lung Association - National Office in September of the following year. Upon receipt of a satisfactory progress report in February of the second year of funding, the third
instalment will be paid out by the Lung Association – National Office in March of the second year of funding.

4. The Financial Officer at your University who deals with such funds will administer the award. Please include the name and address of the Financial Officer responsible for administering the award in your application.

5. The CRRN and the Lung Association – National Office reserve the right to terminate further payments and request a refund of the award in the event that the recipient fails to fulfill the conditions specified.

6. In the event of termination of research training and/or graduate study during the award period, you must immediately notify the CRRN and the Lung Association – National Office in writing. Unspent funds in the award account must be refunded to the CRRN and the Lung Association – National Office. The recipient must contact the University Financial Officer and request that the funds be reimbursed.

**Completion of Award**

The CRRN and the Lung Association – National Office require a final report at the end of the funding period. A final report template will be provided. The report should include a description of contributions to respiratory health and your future commitment to the field. The awardee will also need to provide a brief summary of any course work or study carried out that relates to respiratory health, detailing results and implications. A list of relevant publications and presentations should be appended. The Financial Officer administering the award must submit a financial report upon completion of the award.

**Knowledge Translation**¹

1. Successful applicants will be highlighted in the National Funding Report posted on The Lung Association website under the Research section.

2. Publication of the research in a suitable, refereed professional journal, as soon as possible after completion of the study, is encouraged. Please notify the Manager, National Research Programs of such publications. Acknowledgement of Lung Association support is required in all publications or presentations.

3. Successful applicants will be requested to complete a survey (Fellowship/Grant Funding Impact Form) at three and six years following receipt of funding support. This information will be used to develop reports on the impact of The Lung Association’s National Research Program for the Lung Association’s Board of Directors and the public.

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¹ CIHR Definition of Knowledge Translation:
- making users aware of knowledge and facilitating their use of it to improve health and health care systems
- closing the gap between what we know and what we do (reducing the know-do gap)
- moving knowledge into action
Appendix 1: CRRN Research Platforms

Air Pollution Exposure Platform – Lead: Dr. Christopher Carlsten

Goals:
- To integrate the COPD cohorts into APEL (Air Pollution Exposure Laboratory)’s well-developed exposure model
- To address key questions of mechanism and biological plausibility of observations linking air pollution with COPD, connecting to public health concerns
- To demonstrate that traffic-related air pollution augments subclinical (biomarker) and clinical (lung function) elements of airway disease in smokers at risk for developing COPD

Basic Science & Discovery Platform – Lead: Dr. Andrew Halayko

Goals:
- To identify markers and mechanisms of disease origin and progression that can be targets for novel drug and biomarker discovery for future pre-clinical studies and network clinical trials
- Interrogate biological specimens from human subjects in current cohorts for comprehensive molecular characterization.

Behavioural Sciences Platform - Leads: Drs. Simon Bacon and Kim Lavoie

Goals:
- Use qualitative and quantitative methods to identify the healthcare needs/priorities of patients suffering from respiratory disease and of their caregivers to inform a national research agenda in respiratory disease
- To determine the role of health behaviours (e.g., smoking, physical activity, diet, adherence) and psychological factors (e.g., stress, anxiety) as predictors, outcomes, mediators, and moderators in respiratory research
- To evaluate the psychophysiological processes and mechanisms linking lifestyle factors to worse respiratory outcomes
- To develop and test psychosocial and behavioural interventions targeting lifestyle factors in patients with or at risk for respiratory diseases
- To promote the use of evidence-based communication and behaviour change skills among healthcare providers to improve respiratory disease management and outcomes

Biomarker Platform – Lead: Dr. Don Sin

Goals:
- To determine novel molecular targets of airway disease as a foundation for biomarker discovery.
• To use emerging genomics and proteomics tools to better phenotype cohorts and to develop novel biomarkers to predict development and progression of chronic airway diseases.

Environmental Health Platform – Lead: Dr. Teresa To

Goals:
• To use population-based epidemiological data to measure respiratory health effects of individual air pollutants and climate change
• To identify high-risk subpopulations (age, sex, smokers) or clusters (rural/urban living, SES) to determine the effects of different air pollutants and climate mixtures on the development, exacerbations and progression of asthma and COPD

Health Economics Platform – Lead: Dr. Mohsen Sadatsafavi

Goals:
• Develop the first Canadian comprehensive disease simulation models of asthma and COPD in which the impact of technologies can be evaluated.
• Evaluate the cost-effectiveness of a screening and treatment strategy for undiagnosed airway disease at the community level.

Health Services Research Platform – Lead: Dr. Shawn Aaron

Goals:
• To determine the burden of undiagnosed airway disease (asthma and COPD) in at-risk Canadian adults.
• To determine whether early treatment of newly diagnosed airflow obstruction affects patient quality of life and health outcomes.

Imaging Platform – Lead: Dr. Grace Parraga

Goals:
• To expand use of novel CT and MRI for COPD patient phenotypes to 4 or 5 geographical nodes in Canada
• To enable novel pulmonary imaging platforms across CRRN nodes and investigators for future studies (ex. proof of concept RCTs of novel therapies in asthma, CF or COPD).

Pharmacoe Epidemiology Platform – Lead: Dr. Francine Ducharme

Goals:
• To use pharmacoe epidemiological data to determine if poor control of airway disease in asthmatic preschoolers leads to increased severity and progression of chronic airway disease in later life
• To determine whether poor control of asthma in pregnant mothers leads to increased severity and progression of chronic airway disease in their offspring.

Physiology Platform – Lead: Dr. Denis O’Donnell

Goals:
• To identify the most sensitive test(s) of peripheral airway dysfunction for earlier diagnosis and more accurate prognosis of smokers and non-smokers who are susceptible to airway injury.
• To support the other CRRN platforms by providing a comprehensive physiological characterization and phenotyping of small airway dysfunction.

Population Health Platform – Lead: Dr. Andrea Gershon

Goals:
• To conduct innovative, collaborative, quality respiratory disease research that improves the health of populations of people with respiratory disease.
• The Population Health Platform will make use of health administrative databases and other population-level data, to assist network researchers in achieving CRRN research goals.