FY2015 New
Assembly/Committee Project Application

SECTION I - GENERAL PROJECT INFORMATION

1. PROJECT TITLE:
   Assessment of the Failing Right Ventricle in the Research Setting - Current Approaches and Knowledge Gaps
2. PROJECT PRIMARY ASSEMBLY:
   Pulmonary Circulation
3. PROJECT SECONDARY ASSEBMLY: (IF ANY)
   Critical Care

3a. ATS SECTION: (IF ANY) *--empty--*

4. ATS COMMITTEE SUBMITTING PROJECT APPLICATION: *N/A*
5. What official ATS document will be developed as part of this project (choose 1)?
   Research or Policy Statement

SECTION II - PROJECT DESCRIPTION

6. PROJECT DESCRIPTION

A. Describe the problem and define the goals and objectives of the project.

Right ventricular (RV) dysfunction is a common and devastating complication of frequent diseases like pulmonary arterial hypertension, pulmonary hypertension (PH) due to chronic left ventricular disease, PH due to chronic lung disease, sleep-disordered breathing or hypoxemia, and chronic thromboembolic PH. In addition, RV dysfunction may occur as a consequence of acute processes, such as pulmonary embolism, sepsis, acute lung injury, post-surgical states and ischemic or infiltrative myocardial processes. In all of these conditions, the presence of RV dysfunction is a major predictor of significant morbidity and mortality.

Despite its clinical significance, the RV remains relatively understudied, and no RV-specific treatments exist. While several recent publications and conferences have focused on various aspects of RV physiology and pathophysiology, no uniform definition for either acute or chronic RV failure exists, methods for assessment of RV function in the pre-clinical setting are not standardized, and results from different investigators are difficult to compare. Similarly, no consensus exists as to what constitutes the

optimal diagnostic approach to assessing RV function in clinical research studies.

Surprisingly, no major professional society has published any official guidelines focused on RV dysfunction. In particular, no recommendations exist focusing on the assessment of RV dysfunction in the basic science or clinical research setting. A major reason for this lack of recommendations is the presence of significant knowledge gaps and a general lack of data in the field.

This research statement will briefly summarize the currently available basic science and clinical research approaches to assessing the acutely or chronically failing RV, identify specific knowledge gaps in the field, and provide recommendations for addressing these gaps. By providing specific recommendations on how to accurately assess RV function, structure, and molecular signaling in the research setting, this research statement will help address a need identified in the recent ATS document on PH phenotypes, which concluded that further “studies are needed to understand the maladaptive RV phenotype and to determine the value of therapeutic interventions on blood flow, O2 consumption, and/or metabolism”. This proposal represents the extension of two highly successful postgraduate course held at ATS 2013 ("Under Pressure: The Right Ventricle, in Health, Exercise, and Disease") and ATS 2014 (The Right Ventricle, in Health, Exercise, and Disease: What’s Now, What’s New”).

In particular, the goal of this research statement is to answer the following questions:

1. What are the hallmarks of acute and chronic RV failure?
2. What are clinically relevant endpoints in RV research, and how successful is the field in accurately assessing them?
3. Which questions can the currently available techniques in RV research answer?
4. What are the limitations of the currently available techniques?
5. What are the current knowledge gaps in assessment of the acutely or chronically failing RV in research studies, and how can these be answered?

In order to answer these questions, this research statement will be divided into several sections, each of them being covered by a group of experts in the field. The statement will first provide definitions of acute and chronic RV failure. The main section of the research statement will then focus on the following three topic areas:

1. Optimization of animal models and clinical trials design for the assessment of acute and chronic RV failure
2. Assessment of RV hemodynamics
3. Assessment of RV structure and molecular processes relevant to acute and chronic RV failure

The specific role of morphologic assessments, biochemical and molecular studies, biomarkers, physiologic measurements, and imaging studies in assessing the topic areas will be discussed in detail. Models, endpoints and methods that are of particular relevance to the assessment of acute RV failure will be separated from those of more relevance to chronic RV failure. Where necessary, a clear distinction will be made between methods used in animal and ex vivo studies, and those that are used in clinical research. As this is a research statement and not a guideline, the document will only briefly discuss the strengths and weaknesses of the current gold standards for each of the three topic areas (if they exist), and then focus on identifying knowledge gaps, current barriers and areas of need for further research. It will provide specific strategies to move the field forward, with the ultimate goal of stimulating research leading to the development of novel, targeted and RV-specific therapies. Such therapies will benefit

patients with acute RV failure in the ICU, as well as outpatients with more chronic RV dysfunction.

Topic area 1 will discuss novel animal models and new clinical trial designs pertinent to acute and chronic RV failure research. In particular, this topic area will focus on modeling and assessing RV responses to acute (e.g. pulmonary embolism, ARDS) and chronic PH (pulmonary arterial hypertension and WHO group 2-5 PH). Recommendations for relevant endpoints for basic science and clinical research studies will be provided. Topic area 2 will discuss the assessment of advanced hemodynamic parameters (e.g. pressure-volume loops, impedance and compliance measurements) and the assessment of the RV response to exercise. The specifics of these methods and endpoints in both the acute as well as the chronic setting will be emphasized. Topic area 3 will discuss stereologic approaches and novel ways to assess hypertrophy, fibrosis, angiogenesis and capillarization, as well as methods to assess cellular processes relevant to acute and chronic RV failure. Cellular processes covered will include the assessment of mitochondrial biogenesis and cardiomyocyte metabolism, the assessment of cell death and apoptosis, inflammation and oxidative stress, and the measurement of calcium handling/contractile proteins. Differences and similarities between acute and chronic RV responses will be identified. The roles of genetic approaches to RV research, imaging studies, biomarkers, and RV biopsy will be discussed in all three sections where appropriate. Recommendations will be concise in order to respect the 3,500 word limit for the print version and the 10,000 word limit for the on-line version.

It is not the aim of this research statement to serve as a guideline for the diagnosis of RV failure in intensive care unit; rather, this document will focus on approaches used to assess the RV in the research setting, briefly discuss their pros and cons, and then focus on identifying relevant knowledge gaps in order to move the field forward. Similarly, this statement will not make any treatment recommendations. Submission of a separate proposal focused on diagnosis and treatment of acute and chronic RV failure in the clinical setting is planned upon completion of this project.

This revised proposal incorporates the comments and suggestions from the 2013 submission cycle and from the first round of 2014 reviews. In 2013, the proposal was reviewed by the Pulmonary Circulation (PC) Assembly and Critical Care (CC) Assembly Planning Committees, as well as the Program Review Subcommittee (PRS). The PC and CC Assemblies reviewed the proposal very positively, and the PRS stated that this was an “excellent and timely project”. The major criticism focused on the broad scope of the proposal. In our initial 2014 submission, we provided a proposal that was, as recommended, significantly tighter in scope. In particular, we exclusively focused on the assessment of the acutely and chronically failing RV in the research setting, and we removed all clinical aspects centering around the assessment and treatment of the failing RV in the intensive care unit.

The 2014 proposal was enthusiastically received by the PC Assembly, and no modifications were requested. Similarly, the DDIC had only one minor comment. Lastly, the 2014 reviews from the CC Assembly stated that this a “very important topic” that “would be appropriate to co-sponsor." The CC Assembly suggested focusing more on acute RV failure/critical care and to further narrow the scope. We followed these recommendations by including an additional expert in critical care/acute RV failure, by emphasizing a strong focus on acute RV failure and critical care in all topic areas, and by decreasing the main topic areas from four to three areas. Furthermore, specifics of the methodology and the deliverable are now described in more detail. We refer the reviewers to our point-by-point responses to these critiques that are provided as an appendix to this proposal. We would like to emphasize, however, that we are NOT expanding our focus to include clinical recommendations, as this is a research statement and not a guideline document. We believe the current proposal is significantly improved and well within the scope of a research statement.

B. What are the specific questions to be addressed? (for Clinical Practice Guidelines Only)

Applicants should list all questions relevant to daily clinical practice that are to be covered by the guideline. Questions should be as specific as possible about the patients/populations to be included or excluded, types of diagnostic or therapeutic interventions to be considered or left out. Questions should be structured in PICO format, specifying the target patient population (P), the intervention or exposure (I), comparators (C), and outcomes of interest (O). While it is expected that the initial set of questions will undergo revision and refinement, applicants are encouraged to be as specific as possible about each one of the PICO elements.

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C. Are you aware of any non-ATS activities in this area

No

» If Yes please describe: *--empty--*

D. Describe why this project should be a priority for the ATS?

Acute or chronic RV failure is a common and highly challenging aspect of the practice of pulmonary and critical care medicine. RV failure most commonly is caused by a primarily lung process or by acute critical illness, and patients with RV failure are frequently cared for in the intensive care unit. Therefore, the ATS has a clear role in providing policy recommendations on this topic. Despite the clinical significance of RV failure in the basic science as well as the clinical research setting and in the clinic, and despite a recent wealth of publications focusing on RV dysfunction, no major professional society has published any official guidelines or research statements focused on the assessment of RV function in the research setting. In particular, pre-clinical and clinical approaches to assessing RV function differ significantly between laboratories, institutions, and geographical regions. A standardization of these approaches is therefore needed. The proposed research statement will bring together content experts from within and external to the ATS to fill this significant knowledge gap and to reflect upon research and clinical work done on this topic in recent years. The resulting research statement will identify strengths and weaknesses of the current methods for assessing RV dysfunction, and provide a clear roadmap for areas in need of further research. The American Thoracic Society can help to advance the scientific discussion regarding the scientific assessment of RV failure with a thoughtful, timely, and carefully crafted position on this topic.

E. Describe the methodology that will be used to carry out the project objectives: For clinical practice guidelines (CPGs) include the following: Search Strategy, Review of Evidence, Grading of Evidence, Formulation of Recommendations or other key activities leading towards completion of this project. See page 6 of the Guidelines for ATS Documents (GATS) on the ATS website at: http://www.thoracic.org/statements/document-development/index.php also see methodology for development of CPG's: http://www.thoracic.org/statements/document-development/resources/methodologyforcpgdevelopment-6-15-12.pdf

Panel assembly of experts from relevant basic science and clinical disciplines; literature review of multiple electronic databases and review of the reference list of retrieved articles; formulation of recommendations; identification of knowledge gaps, and opportunities for research.

The steering committee, composed of the project co-chairs and the current Chair or the immediate past Chair of the Critical Care Assembly (or appropriate representative designated by the current Chair), will initially convene by telephone to confirm the working group participants and to outline the content and process of the initial working group meeting, to take place at the 2015 ATS International conference. The working group will be composed of 17 ATS members and 2 external content experts from various fields (see section III). The panel wil include basic science experts, translational researchers and clinical researchers. The group will include experts in chronic RV dysfunction as well as participants with specific expertise in acute RV failure and critical care.

The initial working group meeting will review the available literature and conceptual frameworks, solidify the tangible goals of the document, establish subgroup and writing committee members, and outline specific dates for the remainder of the timeline. The working group will be divided into two subgroups (one for basic science research, and one for clinical research), each charged with defining the important knowledge gaps and research priorities in the three topic areas. A member of the steering committee will chair each of these groups. The subgroups will, with steering committee oversight, work to identify knowledge gaps and research priorities. In particular, working groups will meet to identify clinically relevant endpoints for basic science and clinical studies, discuss strengths and limitations of the methods used to assess these endpoints, identify the "gold standard" methodologies (or lack thereof), and specify the gaps to be addressed in the future. If it is felt that specific endpoints have not yet been investigated, this will be stated. New research directions pertinent for the development and treatment of acute and chronic RV failure will be identified. Tools used to develop these recommendations will be literature reviews and surveys of the panelists (the latter via REDCap online tool). Endorsement of 80% of the panel will be required to make a specific recommendation. Two representatives of each subgroup will serve on the writing committee, with the latter being comprised of 4 subgroup representatives as well as the steering committee members.

The deliverable will identify relevant endpoints for bench research and clinical studies investigating acute or chronic RV failure; it will specify how these endpoints are currently investigated, appraise the merit of the currently used methods, and then identify areas that can be improved and/or better standardized. Similarly, if no specific technique exists for evaluation of a specific endpoint, the statement will state so and discuss approaches aimed at developing a better methodology. Two specific examples are as follows:

1. Measurement of RV adaptation to acute afterload increases is important, as RV function determines outcomes. Currently, this is inadequately inferred by measuring PA pressures or cardiac output by invasive hemodynamics. The limitation of traditional hemodynamics is that even though cardiac output may increase, the increase may not be sufficient. Measurement of RV-PA interaction via pressure volume loops (arterial and end-systolic elastance) is the preferred method since it specifically assesses whether the increase in RV contractility is sufficient for the given increase in afterload (i.e., RV-PA coupling). Alternatively, RV ejection fraction (RVEF) could be measured via echocardiography.
2. The contribution of inflammation to acute RV dysfunction is unknown and represents a significant knowledge gap that should be investigated. In basic science studies, this could be achieved by measuring leukocyte infiltration and/or expression of pro-inflammatory cytokines. Real-time measurements using intravital microscopy to determine time courses and regional differences would be desirable. Specific differences in inflammatory responses in the RV outflow tract vs other areas of the RV (e.g. apex, septum) need to be investigated.

We anticipate that the final document will include 20-25 specific recommendations/statements. Anticipating that each recommendation or statement will entail around 100 words, and considering additional sections for introduction, description of methods, and summary, the scope of the deliverable will be well within the 3,500 word limit of the printed version. The online version allows for 10,000 words; the additional space will be used for further elaborating on recommendations/statements with more in-depth discussion where needed, and to include areas that are considered less important and/or more controversial than those covered in the main document.

Please see Section IV below for the specific draft timeline.

F. Who will perform the systematic reviews? (for Clinical Practice Guidelines Only)

We encourage project teams to identify and make use of recently published, high quality systematic reviews performed by others. However, it is required that one or more members of the team have first-hand experience performing (and publishing) systematic reviews. Applicants are encouraged to recruit qualified individuals with adequate time to help perform systematic reviews. These may include junior members.

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G. HEALTH EQUALITY

Is the assembly project topic relevant to health equality?

Yes

If yes, how do you plan to incorporate the issue of health equality into your project.

According to a recent NIH initiative, and in order to facilitate translation of research results from the bench to the bedside, the project will emphasize the need for adequate representation of both sexes in basic science and pre-clinical research.

H. All applicants who have or will have an official document as part of their Assembly/Committee project must:

Review a set of document-development vignettes prior to submitting this application. Please visit to access these vignettes. Note: Module A is for all document developers and Module B is also required for document developers who are preparing a clinical practice guideline. Yes, I have reviewed the ATS document development vignettes

Module A

I. FOR CME EDUCATIONAL PROJECTS/PRODUCTS ONLY: FOR MORE INFORMATION PLEASE SEE INSTRUCTIONS. PLEASE DESCRIBE THE FOLLOWING:

N/A

SECTION III - POTENTIAL PARTICIPANTS

If your project does NOT intend to develop a Systematic Review or Clinical Practice Guideline. Please skip next three paragraphs and enter project participants.

ATS requests proposals from multidisciplinary teams that include those with relevant clinical expertise and those with expertise in methods of critical appraisal of the literature, systematic literature review and guideline development. ATS encourages involvement of diverse stakeholders, each bringing a unique and important perspective to the process. A typical team should generally include clinical experts (including physicians, nurses and respiratory therapists), clinical investigators, one or more experts in systematic review and guideline development, and one or more external stakeholders, including a patient or patient representative. For some guidelines, it may also be useful to have a health economist, a medical librarian, an expert in group facilitation and/or project management, and/or one or more members to represent the perspective of governmental and non-governmental payer and health plans.

Evidence synthesis requires appropriate methodology. The ATS requires a systematic literature review for Systematic Reviews and Clinical Practice Guidelines and use of GRADE to assess the quality of evidence and to rate the strength of treatment recommendations for Clinical Practice Guidelines. Starting in 2012, the ATS strongly encourages NEW project applications that intend to develop a Systematic Review or Clinical Practice Guidelines to include 1 or more individuals with documented experience in these methodologies (i.e., have designed a systematic review; have applied GRADE for treatment recommendations); such individuals will be expected to provide methodologic support for document development in collaboration with the ATS Methodologist. Alternatively, NEW project applications may include 1 or more junior ATS members (e.g., Fellows or Assistant Professors) with an interest in learning how to perform an evidence synthesis using methods required by the ATS; such individuals ("ATS Evidence Synthesis Scholar") will be expected to work in collaboration with the ATS Methodologist to design the systematic literature review and, where applicable, apply GRADE for treatment recommendations. Finally, upon request, the ATS will provide a guideline methodology trainee who will work with the supervision of the ATS methodologist to perform the methodological work for your committee.

If your project intends to develop a Systematic Review or Clinical Practice Guideline, please indicate below which of the project participants meet the criteria described above. Also, please indicate if they have documented expertise in applying the ATS requirements for evidence synthesis OR will serve as an Evidence Synthesis Scholar. For more information, please discuss with the Document Development and Implementation Committee (contact Judy Corn, DDIC Staff) at least 1 week before submitting the application to PRS.

7. PROJECT PARTICIPANTS

Name	Institution	"Role" on Project committee	Area of Expertise	E-mail	Participant will require airfare	Participant will require Per Diem
Tim Lahm	Indiana University	Project co-chair, steering committee member	Gender differences in RV function; mechanisms of cell death in RV failure			YES
Paul Hassoun	Johns Hopkins University	Project co-chair, steering committee member	Hemodynamic and MRI assessment of RV function; genetic/genomic approaches to assessment of RV failure; RV biopsy			YES
Shannon Carson (or delegate)	Univ of North Carolina	Crit Care Assembly Chair; Crit Care Assembly representative; steering committee member	critical care; outcomes research			YES
Stephen Archer	Queens University	content expert	metabolomics of RV failure; assessment of cardiomycoyte mitochondrial function			YES
Norbert Voelkel	Virginia Commonwealth University	content expert	mechanisms RV failure; novel endpoints in RV failure assessment			YES
Harm Bogaard	Univ of Amsterdam	content expert	animal models of RV failure; mechanisms of RV failure			YES
Rubin Tuder	Univ of Colorado	content expert	assessment of mechanisms of RV failure; stereology			YES
Evangelos Michelakis	Univ of Alberta	external content expert	assessment of mechanisms of RV failure; cell death and cell survival signaling in the RV; molecular imaging of RV failure			YES
Anna Hemnes	Vanderbilt Univ	content expert	echocardiography in animal models of RV failure; metabolic modulators of RV function; animal models of RV failure			YES

Name	Institution	"Role" on Project committee	Area of Expertise	E-mail	Participant will require airfare	Participant will require Per Diem
Todd Kolb	Johns Hopkins Univ	content expert	assessment of RV angiogenesis and vascular density			YES
Naomi Chesler	Univ of Wisconsin	content expert	RV biomechanics and hemodynamics; assessment of RV-pulmonary artery coupling			YES
Jeff Kline	Indiana University	content expert	RV dysfunction in acute massive/submassive pulmonary embolism; biomarkers of acute RV dysfunction; assessment of RV function in isolated heart model			YES
Corey Ventetuolo	Brown Univ	content expert	epidemiologic approaches to RV research			YES
Steve Kawut	Univ of Pennsylvania	content expert	epidemiologic approaches to RV research; clinical trials design			YES
Stephen Mathai	Johns Hopkins Univ	content expert	biomarkers of neurohormonal activation in RV failure; assessment of exercise capacity in RV failure			YES
Francois Haddad	Stanford Univ	external content expert	echocardiographic assessment of RV function; novel approaches to diagnosis of RV function		Domestic	YES
Anton Vonk-Noordegraaf	Univ of Amsterdam	content expert	MRI assessment of RV function; non-invasive assessment of RV function			YES
Robert Naeije	Univ of Brussels	content expert	Pathophysiology of acute and chronic RV failure; acute RV response to exercise; RV-pulmonary artery coupling			YES
Antoine Vieillard-Baron	UniversitÃ© de Versailles Saint Quentin en Yvelines	content expert	acute RV failure in the ICU; effects of ARDS and mechanical ventilation on RV function			YES

SECTION IV - TIMETABLE

8. TENTATIVE TIMETABLE FOR COMPLETION OF THE PROJECT PLEASE INCLUDE A PROJECT COMPLETION DATE FOR EACH FUNCTION OR ACTIVITY.

Function/Activity	Proposed Dates	Location	#of Participants	Function Completion Date
Initial steering committee planning meeting	2/15	web conference	3	02/28/2015
Initial working group meeting	5/15	ATS International Meeting	19	05/16/2015
"Assessment of RV function in basic science studies" subgroup meeting	7/15	web conference	12	07/15/2015
"Assessment of RV function in clinical studies" subgroup meeting	8/15	web conference	13	08/15/2015

Function/Activity	Proposed Dates	Location	#of Participants	Function Completion Date
Writing committee meeting/draft discussion	8/15	web conference	7	08/31/2015
First draft composition	8/15-10/15	n/a	7	10/31/2015
Meeting of writing committee to review draft and put together working document for distribution to entire group	11/15	web conference	7	11/15/2015
Evaluation of first draft by full working committee	11/15-12/15	n/a	19	12/31/2015
Conference call - addressing revisions	1/16	web conference	7	01/15/2016
second draft composition	1/16-2/16	n/a	7	02/15/2016
Meeting of writing committee to review second draft and prepare it for distribution to entire group	2/16	web conference	7	02/15/2016
Evaluation of second draft by full working committee	2/16-3/16	n/a	19	03/31/2016
Conference call - addressing revisions for second draft	4/16	web conference	7	04/15/2016
Final manuscript preparation	4/16-5/16	n/a	7	05/14/2016
Steering/writing committee prep meeting for ATS 2016 Conference	5/16	web conference	7	05/01/2016
Final working group meeting; final approval of research statement	5/16	ATS International Meeting	19	05/14/2016
Submission of completed research statement	5/16	n/a	7	05/31/2016

9. Expected Project Completion Date
5/31/2016

SECTION V - PROJECT OUTCOMES

10. All products or works, whether in writing or in another form, that are created partly or completely with the assistance of funding provided by the American Thoracic Society will be the intellectual property of the ATS exclusively, unless otherwise stipulated in writing by the ATS. The disposition of these products or works will be at the sole discretion of the ATS. Recipients agree, as a condition of receipt of ATS funding, that ATS owns the copyright and all other rights to these products or works.

I- DERIVATIVES (please note that all printed documents are automatically posted on the ATS website)
Web-only fact sheet

II- Web Products
Specialized area of ATS website

III- Educational Products
CME monographs

SECTION VI - BUDGETS

11. FY2015 PROPOSED ATS BUDGET

Round Trip Coach Airfare-Domestic ($575 per person) Number of Persons? 1

Round Trip Coach Airfare-International ($2000 per person) Number of Persons? 1

Hotel and per diem (Full Day Meeting at ATS Conference Fri & Sat Only) ($425 per person) Number of Persons?
19

Breakfast Meeting at ATS Conference ($50.00 Per Person) Number of Persons? *--empty--*

Lunch Meeting at ATS Conference ($50.00 Per Person) Number of Persons? *--empty--*

Conference Calls (# of people x # minutes x 0.10)

# of people 8

# of minutes 60

# of calls 9

Publication Costs ($450.00 Per Page) Number of Pages? *--empty--*

Medical Librarian - This item requires approval and justifications from document development staff (up to $5000)

--empty--

Outside Meeting 1 - Must provide Budget justification

Please note that this section is only for meetings that will not take place at the ATS International Conference. Please list activities using budget parameters below.

N/A

Outside Meeting 2 - Must provide Budget justification

N/A

Other Project Expenses

Please note this section is only for expenses other than outside meetings.

N/A

12. FY2015 BUDGET FROM OTHER SOURCES (JOINT PROJECTS ONLY)

N/A

SECTION VII

13. IF THIS PROJECT IS BEING CO-SPONSORED BY ANOTHER NON-CORPORATE ORGANIZATION (Foundation, government, other non-corporate organizations), PLEASE COMPLETE THE FOLLOWING:

Organization	Contact Person	Funding Amount Requested	Funding Amount Approved

SUPPORTING DOCUMENTS OR REFERENCES

ATS requires references for both chairs justifying their experties in the field.

Documents (please merge all files into one file)

SECTION VIII - Conflict of Interest Management

Conflicts of interest (COI) are direct personal financial or intellectual relationships with a company that has a business interest in the subject matter of the project. Disclosure and management of COI is an integral part of ATS project development because COI can lead to biased generation or assessment of evidence and misinform healthcare decision makers. Medical professional societies are obliged to rigorously manage potential COI, particularly in the development of official documents that affect health care.

Therefore, ATS requires that:

1. *For all proposed projects,* ***ATS must have on file (by time of consideration of this application) an up-to-date disclosure of any potential conflicts of interests of the proposed project chair or co-chair related to project subject matter****. Disclosure-to-ATS occurs through completion of the annual online disclosure questionnaire available at the ATS COI Disclosure website (https://thoracic.coi-smart.com). Please note:*
    - *If you previously completed the 2014 ATS COI Questionnaire as part of requirements for another ATS activity (such as for the May 2014 San Diego International Conference, or for an ATS project approved for ATS fiscal year 2014), please return to the ATS COI Disclosure website to revise your online disclosure to (a) add to your answer to Question 1 that your disclosure can also be used for your consideration as a "Project Applicant" (simply click the box for that) and (b) make sure that the scope of your answers to the online COI questionnaire includes anything relevant to the subject matter of the project you are proposing through this application. Please use the ATS-issued site Log-in ID that was previously issued to you, and your self-determined password, to access the disclosure site, and then follow the posted instructions to revise/update your disclosure. If you've forgotten your Log-in ID, use the "Forgot Log-in ID" prompt on the website or contact John Harmon at ATS at coioffice@thoracic.org or 212-315-8611 for assistance.*
    - *If you have not yet completed the 2014 ATS COI, please contact John Harmon at ATS at coioffice@thoracic.org or 212-315-8611 to be registered to complete the questionnaire and receive site use instructions.*

ATS BUDGET SUMMARY CHART

Line Item	Budget Parameters	Number of Persons	Total
Round Trip Coach Airfare-Domestic *($575 per person)*	*$575.00*	1	$575.00
Round Trip Coach Airfare-International *($2000 per person)*	*$2,000.00*	1	$2,000.00
Hotel and per diem (Full Day Meeting at ATS Conference Fri & Sat Only) *($425 per person)*	*$425.00*	19	$8,075.00
Breakfast Meeting at ATS Conference *($50.00 Per Person)*	*$50.00*		$0.00
Lunch Meeting at ATS Conference ($50.00 Per Person)	*$50.00*		$0.00
Conference Calls *(# of people x # minutes x 0.10)*	8 x 60 x 0.10 = $48.00	**(# Calls)** 9	$432.00
Publication Costs *($450.00 Per Page)* • Policy Statement – 8 Pages Max • Conference Proceedings & Workshops – 8 Pages Max • Technology Reviews & Standards 8 Pages Max • Guidelines & Recommendations – 15 Pages Max	*$450.00*		$0.00
Medical Librarian – This item requires approval and justifications from document development staff *(up to $5000)*	N/A	N/A	N/A
Outside Meeting 1 – Must provide Budget justification	N/A	N/A	N/A
Outside Meeting 2 – Must provide Budget justification	N/A	N/A	N/A
Other Project Expenses – Must provide Budget justification	N/A	N/A	N/A
Note: *Your proposed budget may be adjusted by staff and/or PRS to comply with ATS budgetary Policies and Procedures.*		**Total**	***$11,082.00***