

THD Honors and Awards Committee Report
May 31, 2020

Submitted to the THD Executive Committee by Dr. DuWayne Schubring, THD A&C Committee Chair.

There were two action items for consideration by the committee between the 2019 ANS Winter Meeting and the 2020 ANS Annual Meeting.

1. THD service award. The committee has voted to recommend approval of this award as was presented at the 2019 ANS Winter Meeting. This motion passes to the THD-EC as a motion and second.
2. Bal-Raj Sehgal Memorial Award. The committee has discussed selection criteria for the award, in consultation with Prof. Jong Kim and Prof. Sehgal's family. Two minimum requirements have been agreed upon:
 - A. The candidate must demonstrate a significant innovative or sustained contribution to the thermal-hydraulics field. A particular focus should be on the application of thermal-hydraulics modeling, experimentation, simulation, and validation to nuclear reactor safety.
 - B. The candidate must have presented at least five (5) articles in NURETH, NUTHOS, ATH, or ANS meetings with articles presented at a minimum of two (2) different NURETH meetings.

The committee has also discussed scored selection criteria, similar to those for the TAA or BPA. These include:

- A. Exceptional and/or innovative contributions to thermal hydraulics field.
- B. Sustained career in thermal hydraulics field, including such metrics as papers published and students mentored.
- C. Participation in NURETH, NUTHOS, ATH, and ANS meetings, with a particular emphasis on NURETH.
- D. Relevance of thermal hydraulics work to nuclear reactor safety.

Prof. Jong Kim offered the following:

I have consulted Prof. Ravinder Sehgal (Prof. Bal-Raj Sehgal's son) and Nam Dinh (Prof. Bal-Raj Sehgal's protégé) and re-confirmed what I had known all along - the spirit of this award which was articulated by the Sehgal family in the past.

They reminded me that Prof. Sehgal was noted for his tireless support and encouragement for young researchers and believe this is the right group this award should target. I am copying Nam and Ravinder on this mail. I also feel that it will be wonderful to establish an award that encourages those who are in their early career trying to establish themselves – we don't seem to have such an award in TH Division.

I would therefore advise the H&A Committee to add a selection criterion to the effect that the candidates should be relatively young and upcoming and should not be senior persons who have already built their castles. I believe your committee should craft an appropriate wording on what constitutes “relatively young and upcoming”. One possibility might be “ranking below full professor” in the case of an academic candidate and “no more than 20 years of professional experience” for non-academic candidates. If you would prefer limiting the age explicitly, I think it may not be unreasonable to limit it to 40 and under. These are merely some ideas that quickly came to mind as I write but I am fully confident that your committee’s collective wisdom will come up with better ideas.

At this point, the committee has not yet agreed how to implement a “relatively young and upcoming” criterion: (a) whether it should be a scored or bright-line criterion and (b) whether age, career stage (title), or years of professional experience be used. Dr. Pointer has recommended age citing precedent of other awards, while Dr. Schubring opposes this on ethical, legal (age discrimination), and logistical grounds.

The decision is therefore referred back to the Executive Committee, with a draft of the award criteria provided (Attachment A).

Note of the Secretary: I have also received a variant of the award proposal from Dr. Song with a proposed criterion that implements the wishes of the family (Attachment B).

Attachment A

Application for new ANS Award established by the ANS Thermal-hydraulics Division (THD)

NAME OF AWARD: BAL-RAJ SEHGAL MEMORIAL AWARD

SPONSORED AND FUNDED BY: ANS THERMAL-HYDRAULICS DIVISION (THD)

BAL-RAJ SEHGAL MEMORIAL AWARD

Description

This award recognizes an individual for his/her exceptional and/or sustained contributions to the thermal-hydraulics field with a particular focus on the application of thermal-hydraulics to nuclear reactor safety. A highly visible and respected world leader in thermal hydraulics and nuclear safety research, Professor Sehgal was a fixture at the NURETH conferences with which he had a special affinity, regularly invited to deliver keynote or plenary lectures. While he would engage in serious technical discussions with his peers and colleagues, he would often be seen interacting with the younger generations to transfer his considerable knowledge and experience. He was active in TH Division affairs, serving as TH Division Chair and receiving the Thermal Hydraulics Technical Achievement Award.

This new award honors his legacy. It is awarded every 2 years and presented at a nearest NURETH conference to arrive. The award consists of a plaque and a \$2,000 monetary prize. The recipient is expected to deliver a keynote lecture at the NURETH conference at which the award is presented in coordination with the conference organizers.

Background

Born in Peshawar in former British India, Dr. Sehgal moved to New Delhi during Partition and spent his early years there before emigrating to the United States to pursue a doctorate in nuclear engineering at UC Berkeley. What followed was an exceptional career trajectory which led Dr. Sehgal to become a leading global expert in nuclear reactor safety culminating with his professorship at the Royal Institute of Technology in Stockholm where he established the Division for Nuclear Power Safety. Dr. Sehgal was an outstanding scientist and researcher, a great teacher and mentor, a prolific author (360 articles) and a tireless servant to the community. During the course of his career, he was inducted into numerous societies and academies, notably as elected member of the Swedish Royal Academy of Engineering Sciences, the U.S. National Academy of Engineering, and the Lithuanian Academy of Sciences and fellow of the American Nuclear Society and the American Society of Mechanical Engineers. For his wide-ranging and impactful contribution to research and science of nuclear safety, he was recognized with numerous awards, including the Seaborg Medal, the Technical Achievement Award and the Thomson Award for Reactor Safety from the American Nuclear Society. This award, established in collaboration with his family, honors his legacy.

Selection Method

This award recognizes an individual for exceptional and/or sustained contributions to the thermal-hydraulics field with a particular focus on the application of thermal-hydraulics to nuclear reactor safety. Nominees (non-ANS members also eligible) must meet the following selection criteria ^(a):

- The candidate must demonstrate a significant innovative or sustained contribution to the thermal-hydraulics field. A particular focus should be on the application of thermal-hydraulics modeling, experimentation, simulation, and validation to nuclear reactor safety.
- The candidate must have presented at least five (5) articles in NURETH, NUTHOS, ATH, or ANS meetings with articles presented at a minimum of (2) different NURETH meetings.

Candidates will be evaluated according to the following criteria (subject to revision by THD H&A and THD EC):

- Exceptional and/or innovative contributions to thermal hydraulics field (20%)
- Sustained career in thermal hydraulics field, including such metrics as papers published and students mentored (20%).
- Participation in NURETH, NUTHOS, ATH, and ANS meetings, with a particular emphasis on NURETH (20%).
- Relevance of thermal hydraulics work to nuclear reactor safety (40%).

Nominations are made with the ANS nomination form, accompanied by:

- (1) a narrative summary of about 1,000 words that outlines the nominee's relevant accomplishments and a description of the significance of these accomplishments
- (2) a list of ANS activities (including attendance and papers presented at NURETH, additional information can include but not limited to: presentations at ANS national and topical meetings, service on division committees, and dates of THD membership)
- (3) a resume or CV. Additional letters of support (no more than five) may be provided with the nomination package. The Award recipient is selected by the Honors and Awards Committee of the THD. It is awarded once every two years, if an eligible candidate is nominated and selected.

The deadline for receipt of nominations is August 1 (the year before NURETH is awarded)

Additional information to be considered by ANS Honors and Awards Committee, Finance Committee, and Board of Directors:

This award will come with a plaque and a \$2000 cash reward. The plaque and the cash prize are to be paid for by the ANS THD Award fund and it is already fully endowed. The Sehgal family has agreed to donate \$23,000 to fully fund the biennial award.

No funding for travel reimbursement or meeting attendance is anticipated or included in the proposal. Any exception to this rule, if deemed warranted, would have to be handled by the ANS THD Executive Committee.

DIVISION POINT OF CONTACT:

C.-H. Song
ANS 2019-2020 THD Chair – chsong@kaeri.re.kr

Attachment B

Application for new ANS Award established by the ANS Thermal-hydraulics Division (THD)

NAME OF AWARD: BAL-RAJ SEHGAL MEMORIAL AWARD

SPONSORED AND FUNDED BY: ANS THERMAL-HYDRAULICS DIVISION (THD)

BAL-RAJ SEHGAL MEMORIAL AWARD

Description

This award recognizes **an early-career to mid-career individual** for his/her exceptional and/or sustained contributions to the thermal-hydraulics field with a particular focus on the application of thermal-hydraulics to nuclear reactor safety. A highly visible and respected world leader in thermal hydraulics and nuclear safety research, Professor Sehgal was a fixture at the NURETH conferences with which he had a special affinity, regularly invited to deliver keynote or plenary lectures. While he would engage in serious technical discussions with his peers and colleagues, he would often be seen interacting with the younger generations to transfer his considerable knowledge and experience. He was active in TH Division affairs, serving as TH Division Chair and receiving the Thermal Hydraulics Technical Achievement Award.

This new award honors his legacy. It is awarded every 2 years and presented at a nearest NURETH conference to arrive. The award consists of a plaque and a \$2,000 monetary prize. The recipient is expected to deliver a keynote lecture at the NURETH conference at which the award is presented in coordination with the conference organizers.

Background

Born in Peshawar in former British India, Dr. Sehgal moved to New Delhi during Partition and spent his early years there before emigrating to the United States to pursue a doctorate in nuclear engineering at UC Berkeley. What followed was an exceptional career trajectory which led Dr. Sehgal to become a leading global expert in nuclear reactor safety culminating with his professorship at the Royal Institute of Technology in Stockholm where he established the Division for Nuclear Power Safety. Dr. Sehgal was an outstanding scientist and researcher, a great teacher and mentor, a prolific author (360 articles) and a tireless servant to the community. During the course of his career, he was inducted into numerous societies and academies, notably as elected member of the Swedish Royal Academy of Engineering Sciences, the U.S. National Academy of Engineering, and the Lithuanian Academy of Sciences and fellow of the American Nuclear Society and the American Society of Mechanical Engineers. For his wide-ranging and impactful contribution to research and science of nuclear safety, he was recognized with numerous awards, including the Seaborg Medal, the Technical Achievement Award and the Thomson Award for Reactor Safety from the American Nuclear Society. This award, established in collaboration with his family, honors his legacy.

Selection Method

This award recognizes an **early-career to mid-career** individual for exceptional and/or sustained contributions to the thermal-hydraulics field with a particular focus on the application of thermal-hydraulics to nuclear reactor safety.

Nominees (non-ANS members also eligible) must meet the following selection criteria ^(a) :

- **The candidate must have received her/his highest degree within 20 years of the date of nomination.**
- The candidate must demonstrate a significant innovative or sustained contribution to the thermal-hydraulics field. A particular focus should be on the application of thermal-hydraulics modeling, experimentation, simulation, and validation to nuclear reactor safety.
- The candidate must have presented at least five (5) articles in NURETH, NUTHOS, ATH, or ANS meetings with articles presented at a minimum of (2) different NURETH meetings.

Candidates will be evaluated according to the following criteria:

- Exceptional and/or innovative contributions to thermal hydraulics field (20%)
- Sustained career in thermal hydraulics field, including such metrics as papers published and students mentored (20%).
- Participation in NURETH, NUTHOS, ATH, and ANS meetings, with a particular emphasis on NURETH (20%).
- Relevance of thermal hydraulics work to nuclear reactor safety (40%).

Nominations are made with the ANS nomination form, accompanied by:

- (4) a narrative summary of about 1,000 words that outlines the nominee's relevant accomplishments and a description of the significance of these accomplishments
- (5) a list of ANS activities (including attendance and papers presented at NURETH, additional information can include but not limited to: presentations at ANS national and topical meetings, service on division committees, and dates of THD membership)
- (6) a resume or CV. Additional letters of support (no more than five) may be provided with the nomination package. The Award recipient is selected by the Honors and Awards Committee of the THD. It is awarded once every two years, if an eligible candidate is nominated and selected.

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