How to prepare a Discovery Grant Application

Life Cycle of a Discovery Grant Application

August

Submission of notification of intent to apply (**due Aug. 1**)

September

Internal assignment to EG

October

Selection of external reviewers and preliminary joint review discussions

November

Submission of application (**due Nov. 1**)

December

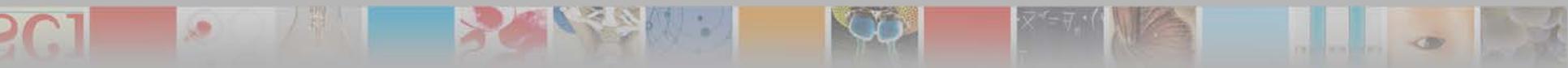Members receive applications and begin reviewing

January

Members review applications and external reviewer reports are received

February

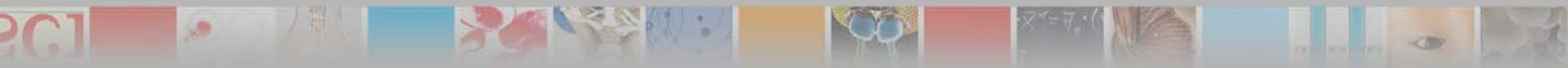Grants competition

April

Announcement of results

Notification of Intent to Apply (NOI)
## Overview

- **Deadline:** August 1st - Mandatory

- **Main components:**
  - Research topics, keywords, title
  - Summary of proposal
  - Suggested external reviewers
  - Canadian Common CV (CCV)

- **Submission:**
  - Research Portal

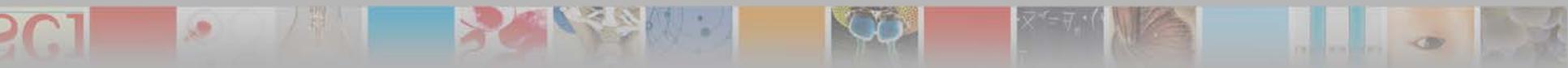# Notification of Intent to Apply Purpose

- **Facilitates preliminary assignments:**
  - to an Evaluation Group
  - of internal reviewers
  - of external reviewers

- **First indication of joint review**
  - Informed by research topics, keywords, and proposal summary

- **First review of subject matter eligibility**
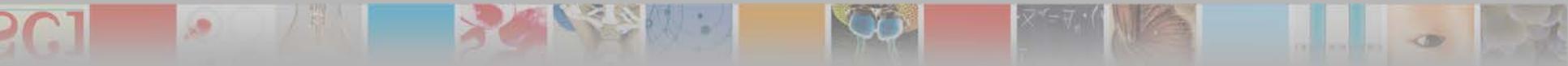
Notification of Intent to Apply
Joint Reviews - Evaluation Groups

- Genes, Cells and Molecules (1501)
- Biological Systems and Functions (1502)
- Evolution and Ecology (1503)
- Chemistry (1504)
- Physics (1505)
- Geosciences (1506)
- Computer Science (1507)
- Mathematics and Statistics (1508)
- Civil, Industrial and Systems Engineering (1509)
- Electrical and Computer Engineering (1510)
- Materials and Chemical Engineering (1511)
- Mechanical Engineering (1512)

Notification of Intent to Apply
Joint Reviews - Conference Model in Action

		Participating (Visiting) Evaluation Group											
		GCM	BSF	EE	Chem	Phys	Geo	CS	MS	CISE	ECE	MCE	ME	Total
Reviewing (Home) Evaluation Group	GCM		36	14	1	10	0	8	5	0	0	5	1	80
	BSF	46		22	4	3	1	2	3	5	2	1	2	91
	EE	12	23		0	0	22	0	10	0	0	0	2	69
	Chem	17	3	2		6	1	0	1	0	0	1	0	31
	Phys	7	5	0	4		0	1	5	0	11	2	1	36
	Geo	4	3	21	5	1		1	4	15	0	0	1	55
	CS	5	9	1	0	2	1		10	2	10	0	4	44
	MS	4	4	7	1	7	1	11		3	3	1	4	46
	CISE	0	2	1	1	0	13	12	4		6	14	11	64
	ECE	2	5	0	0	9	0	8	2	1		0	3	30
	MCE	6	0	0	8	5	2	1	6	6	3		8	45
	ME	1	3	0	0	0	0	0	0	11	5	12		32
	Total	104	93	68	24	43	41	44	50	43	40	36	37	623

Notes:
Applications involving members from more than one other EG (i.e. more than 2 EGs participating in the review) appear more than once.
Joint reviews involving more than one member from the same EG appear only once.
Reviews involving different streams of the same EG, without participation from other EGs, do not appear
EG1508 provided a JR for EG 19 (SAP).

Notification of Intent to Apply
Tips

- **Select appropriate research topics**
  - First selected must be from suggested EG
  - Helps identify potential joint reviews

- **Submit a detailed summary**
  - Helps internal reviewers select appropriate external reviewers
  - Helps identify potential joint reviews
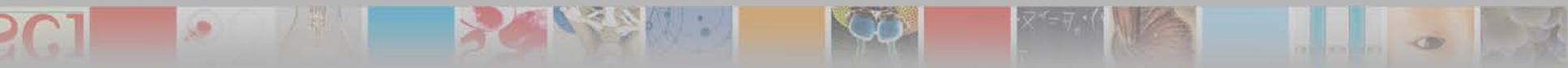
Notification of Intent to Apply
## Tips for selecting external reviewers

- **Be mindful of conflicts of interest**
  - Reviewers outside your institution (primary & adjunct)
  - Adhere to [NSERC guidelines](#) (e.g., six-year window)

- **Identify the best expertise**
  - Ability to comment/review with confidence
- **Consider diversity in your selection**
  - National, International
  - Private, government, public sectors
  - Gender
  - Under-represented groups
  - Established, mid career, early stage researchers
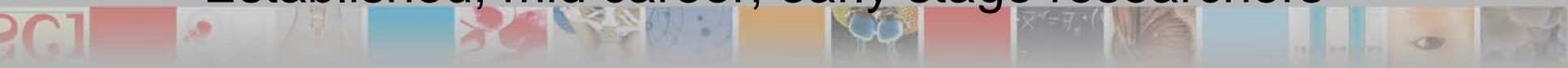
Discovery Grant Application
Overview

- **Deadline:** November 1ˢᵗ - internal deadlines are earlier

- **Main components:**
  - Application for a grant
  - Research proposal
  - Samples of research contributions
  - Budget and justification
  - Canadian Common CV (CCV)

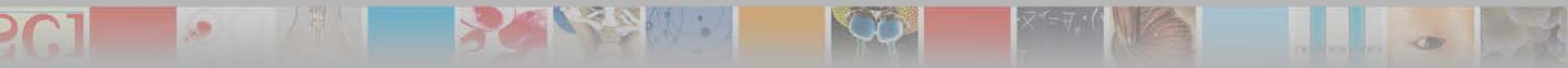- **Submission:**
  - Research Portal
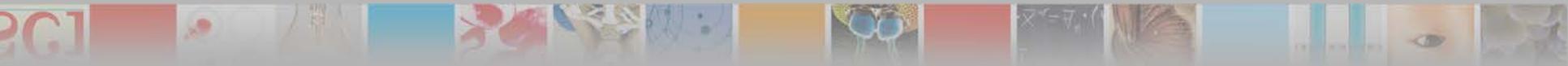
Grants Competition
Review Process

Step 1: Merit Assessment

- **Three equally weighted criteria:**

  - Excellence of the Researcher

  - Merit of the Proposal

  - Contribution to Training of Highly Qualified Personnel (HQP)

- **Uses six-point scale**
  – From exceptional to insufficient

Grants Competition
Review Process

DISCOVERY GRANTS MERIT INDICATORS[1]

	EXCEPTIONAL	OUTSTANDING	VERY STRONG	STRONG	MODERATE	INSUFFICIENT
Excellence of the Researcher	Acknowledged as a **leader** who has continued to make, over the last six years, **influential accomplishments at the highest level** of quality, impact and/or importance to a **broad community**.	The accomplishments presented in the application were deemed to be **far superior** in quality, impact and/or importance to a **broad community**.	The accomplishments presented in the application were deemed to be of **superior** quality, impact and/or importance.	The accomplishments presented in the application were deemed to be **solid** in their quality, impact and/or importance.	The accomplishments presented in the application were deemed to be of **reasonable** quality, impact and/or importance.	The accomplishments presented in the application were deemed to be **below an acceptable level** of quality, impact and/or importance.
Merit of the Proposal	Proposed research program is clearly presented, is **extremely original** and **innovative** and is **likely to have impact** by leading to groundbreaking advances in the area and/or **leading to a technology or policy** that addresses socio-economic or environmental needs.	Proposed research program is clearly presented, is **highly original** and **innovative** and is **likely to have impact** by **contributing to groundbreaking advances** in the area, and/or **leading to a technology or policy** that addresses socio-economic or environmental needs.	Proposed research program is clearly presented, is **original** and **innovative** and is **likely to have impact** by **leading to advancements** and/or addressing socio-economic or environmental needs.	Proposed research program is clearly presented, is **original** and **innovative** and is **likely to have impact** and/or address socio-economic or environmental needs.	Proposed research program is clearly presented, has **original** and **innovative aspects** and **may have impact** and/or address socio-economic or environmental needs.	Proposed research program, as presented **lacks clarity**, and/or is of **limited originality** and **innovation**.
	Long-term vision and **short-term objectives** are **clearly defined**.	**Long-term goals** are **clearly defined** and **short-term objectives** are **well planned**.	**Long-term goals** are **defined** and **short-term objectives** are **planned**.	**Long-term goals** and **short-term objectives** are **clearly described**.	**Long-term** and **short-term objectives** are **described**.	**Objectives** are **not clearly described** and/or likely not attainable.
	The methodology is **clearly defined** and **appropriate**.	The methodology is **clearly described** and **appropriate**.		The methodology is **described** and **appropriate**.	The methodology is **partially described** and/or **appropriate**.	The methodology is **not clearly described** and/or **appropriate**.
	The application **clearly demonstrates** how the research activities to be supported are distinct from those funded (or applied for) by other sources.					The application **does not clearly demonstrate** how the research activities to be supported are distinct from those funded (or applied for) by other sources.
Training of Highly Qualified Personnel	Past training is **at the highest level** in terms of the research training environment provided and HQP contributions to research.	Past training is **far superior** to other applicants in terms of research training environment provided and HQP contributions to research.	Past training is **superior** to other applicants in terms of the research training environment provided and HQP contributions to research.	Past training compares **favourably** with other applicants in terms of the research training environment provided and HQP contributions to research.	Past training is **modest** relative to other applicants in terms of the research training environment provided and HQP contributions to research.	Past training is **below an acceptable level** in terms of the research training environment provided and HQP contributions to research.
	Most HQP move on to **highly impactful** positions that require skills gained through the training received.	Most HQP move on to **impactful** positions that require skills gained through the training received.	HQP **generally** move on to **impactful** positions that require skills gained through the training received.	HQP **generally** move on to positions that require skills gained through the training received.	Some HQP move on to positions that require skills gained through the training received.	HQP **rarely** move on to positions that require skills gained through the training received.
	Training philosophy and research training plans are **of the highest quality: highly appropriate, clearly defined** and expected to produce **top quality** results in terms of the overall approach and specific projects for HQP.	Training philosophy and research training plans are **far superior: highly appropriate, clearly defined** and expected to produce **high quality** results in terms of the overall approach and specific projects for HQP.	Training philosophy and research training plans are **superior: highly appropriate, clearly defined** and expected to produce **quality** results in terms of the overall approach and specific projects for HQP.	Training philosophy and research training plans are **appropriate** and **clearly defined** in terms of the overall approach and specific projects for HQP.	Training philosophy and research training plans are **partially appropriate** and **partially defined** in terms of the overall approach and specific projects for HQP.	Training philosophy and research training plans are **not appropriate** and **not clearly defined** in terms of the overall approach and specific projects for HQP.

[1]The Discovery Grants Merit Indicators should be used in conjunction with the Peer Review Manual which outlines how reviewers arrive at a rating.

Grants Competition
Review Process

Step 1: Merit assessment

	Exceptional	Outstanding	Very Strong	Strong	Moderate	Insufficient
Excellence of the researcher	X X	X X	X			
Merit of the proposal		X X	X X X			
Contribution to the training of HQP		X X	X X		X	

Outstanding – Very Strong – Very Strong

Step 2: Funding Recommendation

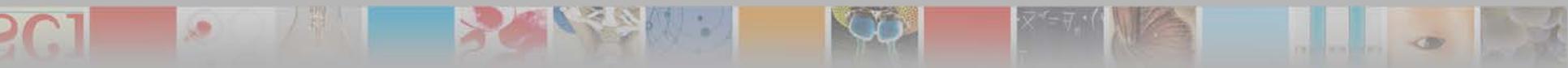| Funding Bin	A	B	C	D	E	F	G	H	I	J	K	...	P
Value	...$	...$	...$	...$	...$	...$	...$	...$	...$	...$	...$	...$	...$

Grants Competition
Review Process

Step 2: **Funding Recommendations**

- Applications grouped into 'bins' of comparable merit

- Similar overall ratings within an EG receive comparable funding

- Possible adjustment related to the cost of research

Discovery Grant Application
Excellence of the Researcher

Assessment based on achievements demonstrated over the past **six** years.

- Knowledge, expertise, and experience

- Quality and impact of contributions to Natural Sciences and Engineering (NSE) research

- Importance of contributions to researchers and end-users
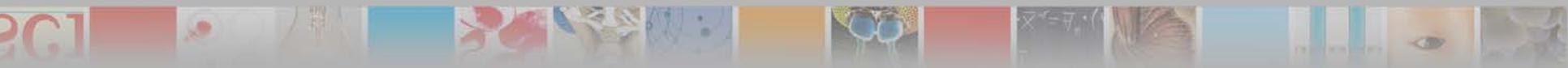
Discovery Grant Application
Excellence of the Researcher

Members will assess this using information from:

- **Most significant contributions**
  - Highlighted quality and impact

- **Samples of research contributions**
  - Up to 4 attached with application *within the last 6 years*

- **CCV contributions, recognitions, activities**
 - Additional information on contributions in application
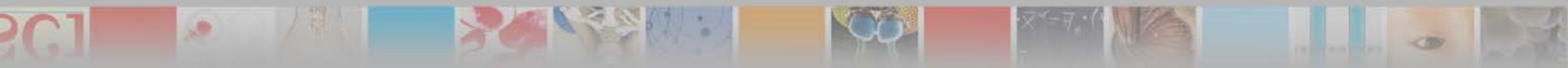
Discovery Grant Application
Merit of the Proposal

Assessment based on the following elements:

- Originality and innovation
- Significance and expected contributions to research
- Clarity, scope of objectives, and appropriateness of methodology
- Feasibility
- Appropriateness and justification for the budget
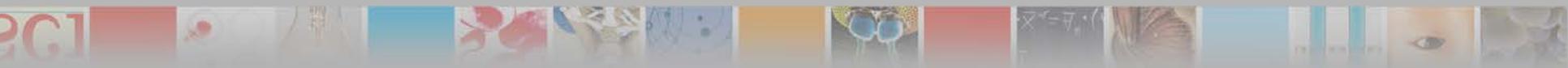- Relationship to other research support
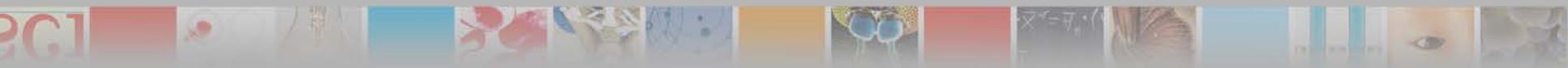
Discovery Grant Application
Merit of the Proposal

Relationship to other research support

- – Budget requested in DG is for different expenses than the ones supported (or to be supported) by other sources.

- – The DG proposal is distinct conceptually from research supported (or to be supported) by CIHR and/or SSHRC.

- – ***New in CY2018*** For CIHR Foundation Grant holders only: convincing evidence that support from DG is essential to carry out the work proposed.
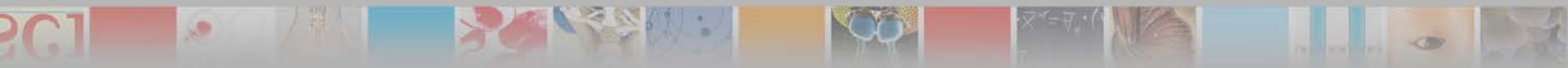
Discovery Grant Application
Merit of the Proposal

Members will assess this using information from:

- **Research proposal (5 pages)**
  - List of references (2 pages)

- **Proposed expenditures and budget justification**

- **Relationship to other research support**
  - CIHR and/or SSHRC summary and budget pages
  - CCV research funding history

Discovery Grant Application
Subject Matter Eligibility

- NSERC supports research whose major challenges lie in the natural sciences and engineering (NSE), other than the health sciences.

- The intended objective(s) of the research must primarily be to advance knowledge in one or more of the NSE disciplines.

- Applicants should refer to:

    - [Selecting the Appropriate Federal Granting Agency](#)

    - *Updated* [Addendum to the Guidelines for the Eligibility of Applications Related to Health](#).

        - The Addendum provides examples that illustrate the eligibility of applications related to human health.
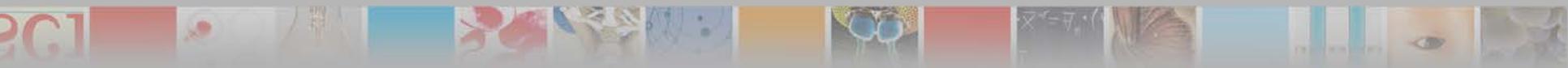
Discovery Grant Application
Contributions to the training of HQP

Assessment is based on both:

- the **past contributions to training**; and
- the **future plans for training**

Quality **research training at all levels** are valued, including:

- Undergraduate students involved in research
- Graduate students and postdoctoral fellows
- Technicians and research associates
- Other research personnel from non-academic sectors i.e. government, or industry

Discovery Grant Application
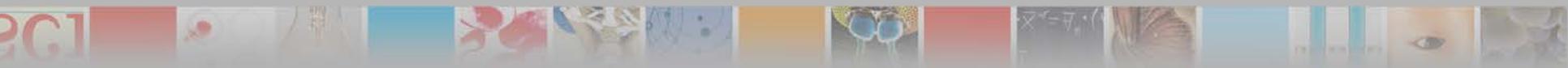## Contributions to the training of HQP

Past contributions to the training of HQP

Assessment based on training over the past **six** years

**New Instructions in CY2018 **

Include three components:

1. Training environment

2. HQP awards and research contributions

3. Outcomes and skills gained by HQP
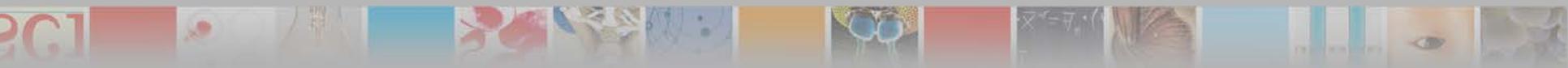
Discovery Grant Application
Contributions to the training of HQP

Past contributions to the training of HQP

Other items to consider:

- Explain the level, context, and role in supervision and co-supervision

- Note impact of delays in training (those taken by the applicant or HQP)

- Focus on quality and impact of training

Members are instructed not to rate Early Career Researchers (ECRs) as *Insufficient* solely due to a limited past record of contributions to the training of HQP.

Discovery Grant Application
Contributions to the training of HQP

Future plans for training

New Instructions in CY2018

Include two components:

1. Training Philosophy

2. Research Training Plan

- Focus on quality, suitability and clarity of plan

- Must be planned training <u>in the NSE</u>

- Define your role in any planned co-supervision

- Describe approaches that promote increased inclusion and advancement of women and other under-represented groups in NSE

Discovery Grant Application
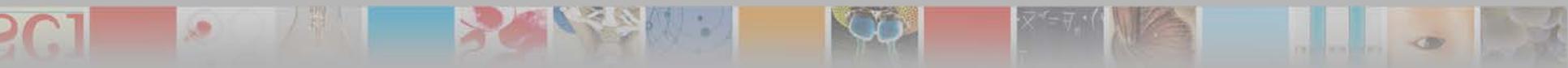## Contributions to the training of HQP

Evaluation Group will assess HQP using information from:

- **Application:**
  - Past contributions to HQP training
  - HQP training plan
- **CCV**
  - Supervisory activities and contributions
  - Trained HQP who co-authored should be identified with an asterisk "*"
  - Do not use "academic advisor"
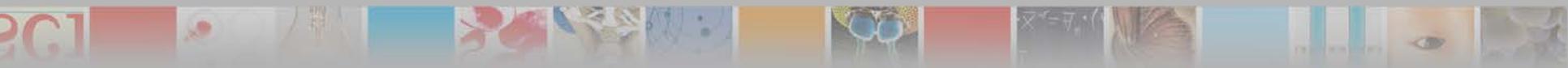
Discovery Grant Application Tips

- **Read other successful applications**

- **Ask colleagues and/or your RGO for comments on your application**
  - Ask both experts in your field and non-experts to review

- **Plan ahead and check institutional deadlines**

- **Use the resources available**

Discovery Grant Application Delays

- Applicant delays are recorded in the CCV, under the Employment section

- HQP delays are recorded in the HQP section of the application

- In both cases, clearly explain
  - the **duration** (i.e., start/end dates)
  - the **impact** on your research (e.g., dissemination of results, ability to recruit HQP)

Discovery Grant Application
Equity, Diversity and Inclusion (EDI)
Summary - EDI with Evaluation Criteria

- **Excellence of the Researcher**
  - Applicants are asked to describe (if applicable) contributions towards the promotion of equity, diversity and inclusion in the research enterprise

- **Merit of the Proposal**
  - Applicants are asked to describe (if applicable) consideration of sex, gender and diversity in the research design

- **Contributions to the Training of HQP**
  - **New in CY2020** Applicants are required to describe EDI considerations they commit to in their future approach to recruitment, training and mentoring
  - Applicants are asked to describe EDI measures implemented in the past training of HQP (if applicable)

Discovery Grant Application
Equity, Diversity and Inclusion (EDI)

Additional requirement - CY2020

- **HQP Plan**

  - Beginning CY2020, as part of the *Training Philosophy* element, **applicants are expected** to describe the active measures they commit to implementing in order to promote equity, diversity and inclusion in the training environment.

  - Additional text will appear in the **Merit Indicators Grid** describing EDI considerations within the *Training Philosophy* element.

Discovery Grant Application
Equity, Diversity and Inclusion (EDI)

Privacy Considerations

- **Past Contributions to HQP Training**

  - If describing a record of training a diverse group of trainees, any HQP demographic information should be clearly linked to the practices which achieved the equity, diversity and inclusion, and should be in **aggregate format**.

  - Due to privacy and confidentiality concerns, do not include personal identification data linked to individuals.

Discovery Grant Application
Available Resources

- **Discovery Grants Information Centre**

- **Resource Videos**

- **Peer Review Manual**
  - Includes information on each of the three criteria and the merit indicators

- **HQP FAQ Document**

- **Webinars on how to apply**
  - NOI and full application stages (French and English)