

Bando di concorso a n. 10 assegni di collaborazione ad attività di ricerca INdAM-DP-COFUND-2015

“INdAM Doctoral Programme in Mathematics and/or Applications Cofunded by Marie Sklodowska-Curie Actions” da usufruirsi presso Dottorati di Ricerca in Italia.

1 Assegni di ricerca INdAM-DP-COFUND-2015

1.1 Tipologia degli assegni

L'Istituto Nazionale di Alta Matematica “Francesco Severi” (INdAM), nell'ambito del progetto europeo INdAM-DP-COFUND-2015, bandisce un concorso a n. 10 assegni di collaborazione ad attività di ricerca, di tipo incoming, da usufruirsi presso Dottorati di Ricerca in Italia

Gli assegni sono banditi ai sensi dell'art. 22, comma 1, della legge 30 dicembre 2010 n.240 e hanno durata triennale.

All'atto della domanda il candidato dovrà scegliere un Dottorato, fra quelli nell'elenco allegato (allegato 1), presso il quale usufruire dell'assegno. Nell'eventualità che il dottorato prescelto cambi la sua struttura o sia disattivato, il candidato potrà optare per un altro Dottorato; in tal caso il Presidente dell'INdAM con proprio decreto potrà concedergli la riapertura dei termini per la presentazione della domanda per un congruo numero di giorni ai fini delle necessarie modifiche.

Dal momento del conferimento dell'assegno, i vincitori hanno diritto al titolo di borsista Marie Sklodowska-Curie (*Marie Sklodowska-Curie fellow*) dell'Istituto Nazionale di Alta Matematica.

Gli assegnisti sono tenuti a farne menzione in tutte le pubblicazioni scientifiche che riguardano l'attività di ricerca svolta durante il periodo di godimento dell'assegno, con la dizione “Titolare di un Assegno di Ricerca Marie Sklodowska-Curie dell'Istituto Nazionale di Alta Matematica “Francesco Severi”.

1.2 Assegno aggiuntivo

Nel caso in cui la percentuale dei vincitori appartenenti al genere con minore numero di candidati sia inferiore ai due

terzi del rapporto fra il numero di idonei di quel genere e il numero totale di idonei, sarà assegnata, seguendo la graduatoria, una borsa aggiuntiva al primo in graduatoria dei candidati di quel genere che non rientrino nell'elenco dei vincitori, purché risultato idoneo. Nel calcolo della suddetta percentuale non si tiene conto di eventuali rinunce.

2 Condizioni di partecipazione

2.1 Condizioni generali

Per poter partecipare al concorso, i candidati devono essere cittadini di uno Stato membro dell'Unione Europea diverso dall'Italia, di uno Stato associato, oppure di uno Stato terzo, i quali non abbiano avuto residenza in Italia né svolto la loro principale attività (studio, lavoro, etc.) in Italia per più di 12 mesi nei tre anni precedenti la scadenza per la presentazione della domanda. Non si considerano brevi soggiorni, quali ad esempio le vacanze.

I cittadini italiani che hanno avuto la residenza legale o la loro attività principale (studio, lavoro etc.) in un Paese estero per almeno tre anni durante i quattro anni precedenti la scadenza per la presentazione della domanda sono assimilati a cittadini non italiani e possono concorrere. Non si considerano brevi soggiorni, quali ad esempio le vacanze.

Il candidato dovrà soddisfare inoltre, nel giorno di scadenza della presentazione della domanda, alle seguenti condizioni:

1. non avere svolto attività di ricerca a tempo pieno per più di quattro anni o periodo equivalente (incluso il periodo di avviamento alla ricerca), in un periodo di tempo successivo al conseguimento del titolo di studio richiesto per l'accesso al Dottorato di Ricerca nel paese in cui tale titolo è stato conseguito, o in Italia, e fino alla data di scadenza di presentazione della domanda
2. di non essere in possesso di un titolo di Dottore di Ricerca.

E inoltre

3 di essere in possesso di un titolo che dia formalmente accesso al Dottorato italiano prescelto, al momento della scadenza prevista al paragrafo 4 per la sua presentazione.

È esclusa la partecipazione al concorso di candidati che alla data di scadenza del presente bando, risultino professori ordinari, professori associati o ricercatori presso università italiane, ricercatori degli Enti pubblici di ricerca, professori e ricercatori di università o enti pubblici di Ricerca stranieri con posizioni a tempo indeterminato ("tenured positions") e di coloro che, alla data di scadenza del presente bando, abbiano usufruito per più di 3 anni complessivi di assegni di ricerca banditi ai sensi dell'art. 22 comma 1 della legge 30 dicembre 2010 n.240.

E' inoltre esclusa la partecipazione di coloro che alla data di scadenza del bando siano iscritti a un corso di Dottorato presso un'Università italiana.

2.2. Verifica del titolo di accesso.

L'idoneità del titolo estero che dia formalmente accesso al Dottorato prescelto viene accertata dall'Università sede amministrativa del Dottorato, secondo la normativa vigente in materia in Italia o accordi internazionali in materia di riconoscimento dei titoli per il proseguimento degli studi, e secondo i propri regolamenti. Ai fini dell'accertamento, i vincitori sono tenuti, a pena di decadenza, a fornire tutta la documentazione richiesta dalla sede amministrativa del Dottorato, entro i termini da essa previsti.

La verifica del riconoscimento del titolo di accesso non è soggetta alla procedura di ricorso di cui all'art. 5 del presente bando

3. Importo dell'assegno

L'importo totale dell'assegno è la somma delle seguenti componenti:

- un importo, composto dalla *living allowance*, che verrà erogato direttamente all'assegnista; essa ammonta a 2000 EUR/mese, per gli assegnisti senza famiglia, e 2200 EUR/mese, per gli assegnisti con famiglia.
- un importo, composto dalla *mobility allowance*, che verrà erogato direttamente all'assegnista; essa ammonta a 600 EUR/mese.

Inoltre saranno attribuiti:

- un importo, composto dalla *travel allowance*, che verrà erogato direttamente all'assegnista quale rimborso delle spese di viaggio tra la località di provenienza del ricercatore e l'istituzione partner ospitante e viceversa, fino a un massimo di 1000 euro per viaggio. Ciascun assegnista ha diritto a sei viaggi, due per anno.
- un contributo al costo della ricerca (RCC) che verrà erogato dall'INdAM direttamente all'assegnista, quale rimborso di: spese per l'acquisto diretto di materiale (escluso hardware) o beni di consumo necessari per la ricerca; spese di viaggio, vitto e alloggio per la partecipazione a eventi scientifici. L'importo è pari a 1600 EUR per il primo anno e di 3200 EUR per il secondo e il terzo anno.
- un importo pari a 500 EUR/mese +IVA, per un massimo di 4 mesi, da versare a un'impresa o un'Istituzione in caso di stage dell'assegnista presso di essa in relazione alle attività previste nel suo percorso dottorale.

La nozione di "famiglia" corrisponde alla definizione del Work Programme 2014-15 di Horizon 2020: "Family is defined as persons linked to the researcher by (i) marriage, or (ii) a relationship with equivalent status to a marriage recognised by the national legislation of Italy or by the legislation of the country where this relationship was formalised; or (iii) dependent children who are actually being maintained by the researcher."

Gli assegnisti saranno tenuti a pagare le eventuali tasse d'iscrizione e/o di frequenza al dottorato prescelto; i relativi importi saranno loro rimborsati dall'INdAM su presentazione di idonea documentazione.

La liquidazione dell'importo dell'assegno avverrà in rate mensili posticipate. Sono ammessi rimborsi delle missioni

scientifiche svolte nell'ambito delle attività dei Gruppi Nazionali di Ricerca Matematica. Ai vincitori dell'assegno è garantita l'iscrizione ai Gruppi Nazionali di Ricerca dell'Istituto, anche in deroga ai termini previsti.

Gli assegni non sono cumulabili con stipendi o retribuzioni di qualsiasi natura e non sono compatibili con la posizione di professore ordinario, professore associato o ricercatore presso università italiane, di ricercatore degli Enti pubblici di ricerca, di professore o ricercatore di università o enti pubblici di Ricerca stranieri con posizioni a tempo indeterminato ("tenured positions")

A nessun titolo potranno essere attribuiti all'assegnatario ulteriori compensi o contributi di qualsiasi natura che facciano carico all'Istituto, salvo quanto previsto dall'Allegato 2 e quanto previsto dai regolamenti del Dottorato prescelto.

4 Presentazione domanda

Le domande dovranno essere presentate entro le ore 17 del giorno 31 maggio 2018, fuso orario di Roma, mediante una apposita modulistica elettronica predisposta all'interno del sito internet dell'INDAM
<http://cofund.altamatematica.it>

All'atto della domanda il candidato dovrà, a pena di esclusione dal concorso, compilare tutte le schede previste e allegare i documenti richiesti, con l'unica possibile eccezione della copia ufficiale del certificato di ottenimento del titolo atto all'ammissione al Dottorato prescelto. La suddetta copia dovrà comunque essere presentata entro le seguenti scadenze:

- cittadini dell'Unione Europea: entro il 30 settembre 2018 alle ore 17 fuso orario di Roma,
- cittadini di altri Paesi: entro il 31 maggio 2018 ore 17 fuso orario di Roma.

Ogni domanda dovrà includere, a pena di esclusione dal concorso:

- curriculum vitae del candidato
 - una copia di uno o più certificati attestanti le qualifiche universitarie, con la lista dei corsi seguiti e degli esami sostenuti con i rispettivi voti, il voto finale, la data dell'ottenimento del titolo e la durata ufficiale del corso di studi
 - due lettere di presentazione di due docenti universitari nelle quali siano valutate le capacità intellettuali, i risultati accademici, la motivazione e la capacità di lavorare in gruppo; le due lettere dovranno essere presentate direttamente dai docenti mediante procedura informatica online.
 - un progetto di formazione e ricerca preparato dal candidato; il progetto ha lo scopo di far conoscere gli interessi di ricerca del candidato e la loro coerenza con le linee di formazione e ricerca offerte dal dottorato prescelto. Il candidato, in caso di successo, resterà libero di scegliere il suo percorso dottorale e la sua tesi di dottorato indipendentemente dal progetto presentato.
 - una copia ufficiale del certificato di ottenimento del titolo atto all'ammissione al Dottorato prescelto.
- Inoltre il candidato potrà allegare

- una lista dei suoi lavori scientifici o di altri lavori significativi (opzionale).

Tutti i documenti devono essere redatti in lingua italiana o inglese, in caso contrario devono essere accompagnati da una traduzione in italiano o in inglese, a cura e sotto la responsabilità del candidato.

Ai vincitori del concorso potranno essere richiesti i certificati e le documentazioni originali.

5 Procedure di Valutazione

Le procedure di valutazione sono quelle indicate nell'Allegato 2.

Il candidato può attivare una procedura di ricorso (redress procedure). Essa può riguardare sia l'ammissibilità formale della domanda, con l'eccezione dell'ammissibilità del titolo atto all'ammissione al Dottorato prescelto, sia la procedura di valutazione da parte dei referees; il ricorso non è un'automatica nuova rivalutazione, e i giudizi di merito dei referees non sono soggetti a ricorso. La parte della procedura di valutazione effettuata dal Panel e il giudizio finale di merito del Panel sono insindacabili.

La graduatoria dei vincitori è costituita dai candidati che risulteranno compresi entro il numero degli assegni messi a concorso. Gli assegni che si rendessero disponibili per rinuncia o decadenza dei vincitori, o per altro motivo, potranno essere attribuiti ai candidati risultati idonei nell'ordine della graduatoria.

6 Esito

L'esito del concorso sarà notificato ai candidati che risulteranno nella graduatoria dei vincitori e sarà affisso all'albo dell'Istituto.

Gli assegni sono conferiti con provvedimento del Presidente dell'INdAM. Entro 15 giorni dalla data del ricevimento della comunicazione per posta elettronica certificata attestante l'esito del concorso, i vincitori dovranno far pervenire all'Istituto Nazionale di Alta Matematica "F. Severi", P.le Aldo Moro, 5 (Città Universitaria) – 00185 ROMA, una dichiarazione scritta di accettazione dell'assegno alle condizioni comunicate.

La comunicazione deve essere trasmessa per raccomandata con avviso di ricevimento, oppure allegata a posta elettronica certificata (PEC) inviata all'indirizzo altamatematica@pec.it, oppure a mano con ricevuta di consegna. Il mancato ricevimento da parte dell'Istituto di tale dichiarazione entro i termini stabiliti implicherà automaticamente la rinuncia all'assegno.

Con detta dichiarazione i vincitori dovranno dare esplicita assicurazione, sotto la propria personale responsabilità, che non usufruiranno durante tutto il periodo dell'assegno di altre borse di studio o analoghi assegni o sovvenzioni, che non percepiranno stipendi o retribuzioni di qualsiasi natura, e di non essere esclusi dalla partecipazione al concorso in base a quanto specificato nell'articolo 2.1 "Condizioni generali" del presente bando. Tale conferimento sarà contestualmente comunicato al/ai responsabile/i della Istituzione ospitante.

Per i vincitori del concorso, al momento dell'accettazione del conferimento, dovranno essere allegati i seguenti documenti:

1. certificato di residenza in carta libera;
2. attestazione/documentazione del titolo estero che dia formalmente accesso al Dottorato italiano prescelto, redatta secondo le formalità richieste dall'Università sede amministrativa del Dottorato.
3. ricevere la "living allowance" maggiorata.

certificato di matrimonio, o equivalente, o certificato di stato di famiglia, o equivalente, per chi ha diritto a

I vincitori, nei casi previsti dalla normativa vigente, potranno presentare al posto dei suddetti certificati una dichiarazione sostitutiva di certificazione.

Inoltre i vincitori dovranno fornire, a richiesta dell'Università sede del Dottorato prescelto, ogni ulteriore documentazione necessaria all'inquadramento nel Dottorato stesso.

7 Obblighi e diritti del titolare

7.1 Attività degli assegnisti

Il titolare dell'assegno sarà iscritto a tutti gli effetti come dottorando (con borsa) del Dottorato prescelto all'atto della domanda, senza ulteriori procedure di selezione. Per gravi giustificati motivi di forza maggiore, il Consiglio di Amministrazione dell'Istituto, a domanda dell'assegnista o comunque con il suo assenso, può autorizzarlo all'iscrizione a un altro Dottorato partecipante al Progetto INdAM-DP-COFUND-2015.

Il Collegio dei Docenti del Dottorato nomina un Supervisore per il titolare dell'assegno, allo scopo di fornirgli supporto nelle attività accademiche; l'assegnista, con l'assistenza del Supervisore, elabora un *piano personale di sviluppo della carriera (Personal Career development plan)* (come indicato nell'allegato 2). e inoltre l'assegnista, sentito il Collegio dei Docenti, sceglie un Direttore di Ricerca, insieme al quale predispone un *progetto individuale di ricerca* (come indicato nell'allegato 2).

Inoltre l'assegnista:

- dovrà prendere servizio, entro la data indicata nella lettera di conferimento, presso il Dottorato.
- godrà di tutti i diritti attribuiti ai dottorandi (con borsa) del Dottorato, ad eccezione dell'incremento della borsa nella misura del 50% per periodi di formazione all'estero.
- dovrà adempiere a tutti gli obblighi e i doveri cui sono tenuti i dottorandi (con borsa) del Dottorato, inclusi gli obblighi di frequenza e il passaggio di esami, prove intermedie, ammissioni all'anno successivo ecc.
- svolgere regolarmente e con assiduità le attività previste presso il Dottorato, in particolare presenziando con regolarità agli eventi scientifici che vi si svolgono;

- consegnare al Presidente dell'INdAM, entro il tredicesimo mese ed entro il venticinquesimo mese dall'inizio della presa di servizio, una relazione sulle attività svolte il primo e, rispettivamente, il secondo anno.

Gli assegnisti, pur essendo tenuti a partecipare ad alcune iniziative dell'Istituto Nazionale di Alta Matematica, svolgeranno la loro attività di ricerca senza orario di lavoro predeterminato, nella/e sede/i prescelta/e.

7.2 Missioni

Il progetto dovrà svolgersi presso le strutture del Dottorato prescelto. Missioni e soggiorni fuori sede devono normalmente essere previsti nel piano di sviluppo della carriera o nel progetto individuale di ricerca, e devono essere autorizzate in anticipo dall'INdAM fornendo adeguate motivazioni. La richiesta dovrà considerarsi autorizzata solo dopo il ricevimento dell'autorizzazione scritta da parte del Presidente dell'INdAM.

Un'eccezione a questa regola riguarda missioni di breve durata (massimo 10 giorni lavorativi per missione) previste nel piano di sviluppo della carriera o nel progetto individuale di ricerca, per le quali non è necessario richiedere l'autorizzazione dell'INdAM, a condizione che tali missioni non superino cumulativamente il 10% della durata del progetto.

Restano fermi tutti gli obblighi previsti in materia di missioni dai regolamenti dell'Università sede amministrativa del Dottorato prescelto.

7.3 Interruzioni o sospensioni del progetto

L'INdAM deve essere informato immediatamente di interruzioni nella permanenza dell'assegnista presso l'Università ospitante, e dovranno essere fornite giustificazioni appropriate.

Eventuali sospensioni dell'assegno potranno essere decretate, in casi eccezionali, dal Presidente dell'INdAM, su richiesta dell'assegnista, sentito il Consiglio di Amministrazione dell'Istituto.

7.4. Accesso aperto alle pubblicazioni scientifiche.

Tutte le pubblicazioni scientifiche che riguardano l'attività di ricerca svolta durante il periodo di godimento dell'assegno devono soddisfare alle regole dell'accesso aperto come esposte nell'allegato 4

7.5 Principi etici

Al momento della scelta del suo progetto individuale di ricerca di cui all'allegato 2, il titolare dell'assegno dovrà verificare che esso rispetti tutti i principi etici enunciati nell'allegato 4, e dovrà compilare, secondo le linee Guida di Horizon2020, una tabella concernente i contenuti etici del progetto. Nei casi previsti dall'allegato 3, il progetto dovrà ottenere l'approvazione esplicita della Research Executive Agency della UE.

8 Inadempienze e cessazione dell'assegno

In caso di inadempienze ad obblighi e/o doveri di cui all'art. 7 che prevedano per i dottorandi (con borsa) del Dottorato prescelto la cessazione o la decadenza della borsa, il Presidente dell'INdAM, sentito il Consiglio di Amministrazione dell'Istituto, disporrà la cessazione anticipata dell'assegno.

In caso di altre inadempienze da parte del titolare dell'assegno o di assenza non autorizzata dalla sede, il Presidente dell'INdAM potrà inviare una lettera di richiamo, accompagnata eventualmente da una sanzione amministrativa pari al più ad una mensilità dell'assegno. Nel caso di gravi inadempienze, oppure di inadempienze successive all'invio di lettera di richiamo, il Presidente disporrà la cessazione anticipata dell'assegno, sentito il Consiglio di Amministrazione dell'Istituto.

9 Sospensione temporanea per particolari motivi

Il godimento dell'assegno di ricerca può essere sospeso in via temporanea nel caso che il suo titolare debba assentarsi per gravidanza e puerperio, per malattia di durata superiore ad un mese o per altro grave motivo.

10 Norme di rinvio

Per quanto non esplicitamente sopra menzionato, è valido quanto previsto dagli allegati 2, 3, 4, i quali costituiscono parte integrante del presente bando.

ALLEGATO 1 Lista dei Dottorati

Università'	Acronimo	Dottorato
Università degli Studi dell'Aquila	UNIV AQ	PhD in "Matematica e Modelli"
Università degli Studi di Bari "Aldo Moro"	UNIBA	PhD in "Informatica e Matematica"
Alma Mater Studiorum – Università di Bologna	UNIBO	PhD in "Mathematics"
Università della Calabria	UNICAL	PhD in "Mathematics and Computer Science"
Università degli Studi di Palermo	UNIPA	PhD in "Matematica e Scienze Computazionali"
Università degli Studi di Firenze	UNIFI	PhD in "Informatica, Matematica, Statistica"
Università degli Studi di Genova	UNIGE	PhD in "Matematica e Applicazioni"
Università degli Studi dell'Insubria	UNINSUBRIA	PhD in "Computer Science and Computational Mathematics"
Politecnico di Milano	POLIMI	PhD in "Mathematical Models and Methods in Engineering"
Università degli Studi di Milano Bicocca	UNIMIB	PhD in "Matematica"
Università degli Studi di Modena e Reggio Emilia	UNIMORE	PhD in "Mathematics"
Università degli Studi di Napoli "Federico II"	UNINA	PhD in "Matematica e applicazioni"
Università degli Studi di Padova	UNIPD	PhD in "Mathematical Sciences"
Università degli Studi di Pisa	UNIFI	PhD in "Matematica"
Scuola Normale Superiore di Pisa	SNS	PhD in "Matematica"
Università degli Studi "La Sapienza" di Roma	UNIROMA1	PhD in "Matematica"
Università degli Studi di Roma "Tor Vergata"	UNIROMA2	PhD in "Mathematics"
Università degli Studi Roma Tre	UNIROMA3	PhD in "Matematica"
Università degli Studi di Torino	UNITO	PhD in "Complex Systems in Life Sciences"
Università degli Studi di Torino	UNITO	PhD in "Pure and Applied Mathematics"
Università degli Studi di Trento	UNITN	PhD in "Matematica"
Università degli Studi di Udine	UNIUD	PhD in "Information Technology and Mathematical and Physical Science"

ALLEGATO 2

1. Evaluation

1.1 Eligibility Check

The INdAM staff will check eligibility criteria for each proposal before the evaluation begins, with the exception of the possession of a degree which formally entitles applicants to embark in a Doctorate in Italy, which will be checked by the Partner Organisation of the chosen PhD programme.

Proposals which do not fulfil eligibility criteria will not be included in the evaluation.

If the candidate proposal is non-eligible, INdAM staff will send her/him a letter informing of the rejection of the proposal and containing the reasons for the decision.

All eligible proposals will be evaluated by independent referees and by the Panel in charge of the final decision (see Paragraph 1.2 below). Evaluation criteria and procedures are described later on (see in particular Paragraph 1.3).

Soon after the completion of the evaluation by the referees, each applicant will receive a letter containing initial information on the results of the evaluation, including scores and comments from the referees.

The applicant will also be informed that a redress procedure is available.

At the end of the evaluation procedure each applicant will receive a communication containing the final ranking and the comments of the Panel in charge of the final decision.

Official letters are then sent to successful candidates, informing them of the conditions, the rules and the

1.2 Organisation of selection process

Administrative eligibility check: INdAM administrative staff will check the completeness of the application, as well as eligibility conditions, with the exception of the possession of a degree, which formally entitles applicants to embark in a Doctorate in Italy, which will be checked by the Board of Professors ("Collegio dei Docenti") of the chosen PhD programme. Proposals, which do not fulfil eligibility criteria, will not be included in the evaluation.

Evaluation and Selection: the selection committee in charge of the final decision in each call is a Panel appointed by the Board of Directors (Consiglio di Amministrazione) of INdAM, according to the following guidelines:

- ! The composition of the Panel must ensure:
 - ! A high level of expertise;
 - ! An appropriate range of competencies in Mathematics and/or its applications;
 - ! One or more experts from the private sector;
 - ! Gender balance (at least one third);
 - ! One or more non-national experts (and at least one third).
 - ! Each Panel is in charge only for one call
 - ! The composition of the Panel must avoid any possible conflict of interests
- In constituting the Panel, the Consiglio di Amministrazione also takes account of their abilities to appreciate the industrial and/or societal dimension of the proposals. Members of the Panel must also have the appropriate language skills required for the proposals to be evaluated.
- The Panel establishes a list of national and international experts (referees) sufficiently ample to cover all the fields of interest for the calls.
- Referees will be selected in order to ensure at least one third of representatives per gender. In fact we will aim to reach a full fifty-fifty gender balance.
- Redress procedure:** a Redress Committee appointed by the Consiglio di Amministrazione of INdAM examines Redress requests.
- Once the applicant has received the letter containing initial information on the results of the eligibility checks, or showing the outcome of the evaluation by the referees of his/her proposal, he/she may submit a request for redress. The redress requests are examined by the Redress Committee. The committee's role is to ensure a coherent interpretation of such requests, and equal

treatment of applicants.

The redress procedure is concerned with the eligibility-checking process, and how the referees handled the proposal; it is not an automatic re-evaluation, and the judgement of appropriately qualified experts is not called into question; the part of the evaluation procedure carried out by the Panel is not subject to the redress procedure, and the final judgement of merit determined by the Panel is binding and non-negotiable.

In case the Redress Committee accepts a redress request, the Consiglio di Amministrazione may dispose that the Panel enacts a new evaluation procedure for all or part of the proposal; the candidate is promptly informed of its decision.

At the end of the evaluation procedure each applicant will receive a communication containing the final ranking and the comments of the Panel in charge of the final decision.

Official letters are then sent to successful candidates, informing them of the conditions, the rules and the obligations regarding the fellowships.

· **Selection of experts.**

The list of the referees is drawn up by the Panel to ensure:

! ! A high level of expertise

! ! An appropriate range of competencies in mathematics and/or its applications ! ! A reasonable gender balance (at least one third)

! ! A reasonable balance of national and non-national experts

! An adequate participation of experts from the private sector

! Regular rotation of experts

In constituting the lists of experts (referees), the Panel also takes account of their abilities to appreciate the industrial and/or societal dimension of the applicant proposals.

The list of referees will cover all the research topics corresponding to the candidate proposals.

Experts will be chosen from a dedicated database, mainly implemented through INdAM lists of prominent mathematicians such as:

! nationals: full professors in Italian Universities and researchers in Research Organizations

! non nationals: visiting professors, invited lecturers, invited speakers.

Such a database is already available from the previous INdAM Programmes funded by COFUND actions. Each Panel may at any time include in the list of referees any individual with the appropriate skills.

Fellows/Researchers' selection workflow and powers entrusted to the different actors.

Two parts compose the evaluation procedure: referees score proposals in the first part and by the Panel in the second part. The final score for each proposal is computed by averaging the scores of the two parts with weights respectively equal to 70% and 30%.

In the first part of the procedure, the Panel allocates each proposal to two referees from the list, taking account of the fields of expertise of them, and avoiding conflicts of interest. The two referees will assess each proposal independently. The proposal will be evaluated against pre-determined evaluation criteria described in section 1.3 below.

In case of strongly different opinions between the two referees, the Panel can allocate the proposal to a third referee, in particular when the difference between the scores given by the two referees exceeds 30 per cent.

In order to avoid conflicts of interests, experts in the list of referees will be assigned to proposals excluding

- ! experts who are members of the partner institution chosen as a host institution in the proposals they are evaluating;
- ! experts who had relevant scientific collaborations with one of the candidates they are evaluating;
- ! experts who are research directors, administrators, managers, and/or owners, even with minority stakes, of foundations, public institutions or private companies which participate to the programme;
- ! experts having family or relative ties or connections with the candidates they are evaluating.

All the rules provided for by the Italian laws will apply.

Under the terms of the appointment letter, referees must declare beforehand any known conflicts of interest, and must immediately inform the Panel, which will take whatever action is necessary to remove any conflict.

In the second part of the evaluation, the Panel carries out a comparative evaluation of all proposals, according to the pre-determined evaluation criteria described in section 1.3 below.

The final task of the Panel is to prepare a final report, which establishes a ranked list of the proposals, which passed all evaluation thresholds. The tasks of the Panel will also include deciding a priority order for proposals with the same score.

The Panel final report should record:

- ! A list of proposals passing all thresholds, each one with the final score and the Panel priority order
- ! A list of proposals which fail one or more thresholds
- ! A list of proposals which have been found ineligible by the experts during the evaluation
- ! A summary of all deliberations of the Panel
- ! In case the percentage of successful candidates of a gender is less than one half of the percentage of the candidates of the same gender, the Panel will be asked to mention and if possible to give some explanation of such large difference in the final report.

The final judgement of merit determined by the Panel is binding and non-negotiable.

The successful candidates are those who enter within the number of offered fellowships.

In case for any reason one or more of the successful candidates withdraw, they are replaced by the candidates in a reserve list (the list of proposals having passed all thresholds), following the Panel priority order. Each call contains information about the time of validity of the reserve list.

1.3 Evaluation Criteria

· **Criteria/sub-criteria for the selection of fellows.** Each application must include the following:

- ! Curriculum Vitae of the applicant;
- ! a list of any related research paper or other significant work by the applicant;
- ! one copy of the official transcripts (in English or Italian) detailing the university-level qualifications, the list of classes-exams attended/passed and marks to date, the final score and the date of graduation;
- ! two academic references for the applicant supporting intellectual ability, academic achievement, motivation, and ability to work in a group.
- ! a statement indicating which PhD school, among those offered by INdAM-DP-COFUND-2015, the

applicant intends to join, and a training and research project prepared by the candidate. While not binding for the future choice of the dissertation theme, the project should allow recognition of the research interests of the applicant and whether they are coherent with the scientific research lines and the training offered by the chosen doctoral school.

The evaluation procedure is composed by two parts.

In the first part, each proposal will be assessed independently by two referees, chosen by the Panel from the

list of referees taking part in this evaluation. This part may be carried out on the premises of the experts concerned ("remotely"). The Panel on the evaluation procedure will brief referees on the responsibilities of the experts, and on any other relevant topic. Referees will evaluate proposals according to the pre-determined evaluation criteria detailed below. They perform evaluations on a personal basis, not as representatives of their employer, their country or any other entity. Referees are expected to be independent, impartial and objective, and to behave throughout in a professional manner. They sign a confidentiality and conflict of interest declaration before beginning their work. Confidentiality rules must be adhered to at all time, before, during and after the evaluation. Under no circumstance may an expert attempt to contact an applicant on his own account, either during the evaluation or afterwards.

Referees are acting individually; they do not discuss the proposal with each other, nor with any third party. Referees record their individual opinions giving scores and also comments against the evaluation criteria. When scoring proposals, referees will *only* apply the aforementioned evaluation criteria. Referees will assess and mark the proposal exactly as it is described and presented. They do not make any assumptions or interpretations about the project in addition to what is in the proposal. Concise but explicit justifications will be given for each score. Referees will also comment on strengths and weaknesses of the proposal under examination.

In the second part of the evaluation procedure, the Panel carries out a comparative evaluation of all proposals. Each proposal will be evaluated according to the pre-determined evaluation criteria for the Panel mentioned below.

Criteria and subcriteria for the DP fellowships Criteria for the Referees (weight: 70%)

- ! Match between the fellow's profile and the domain of Mathematics and/or its applications in which the fellow plans to work, as inferred from the training and research project (weight: 30 %);
- ! Scientific and teaching quality of university/ties attended by the applicants to obtain its academic titles (undergraduation, graduation, Master of Sciences...) (weight: 25 %);
- ! Results including research and other significant work, fellowships and awards obtained, etc. taking into account the level of experience (weight: 20 %);
- ! Scores of university-level classes/exams passed; score of graduation and other academic titles (weight: 25 %).

Criteria for the Panel (weight: 30%)

The Panel will score each proposal on the basis of the CV and of the two academic references, according to the following criteria:

- ! Match between the fellow's training and research project and the scientific and training objectives of the chosen PhD Programme (weight: 50 %);
- ! Intellectual ability, academic achievement, motivation, ability to work in a group (weight: 40 %);
- ! Potential for creating long term collaborations and mutually beneficial co-operation between Italy

and the country of origin (weight: 10 %);

Scores and thresholds

Each criterion will be scored out of 5. Scores will be awarded with a resolution of one decimal place. The scores indicate the following with respect to the criterion under examination:

0 – The proposal fails to address the criterion under examination or cannot be judged due to missing or incomplete information

1 – Very poor. The criterion is addressed in a cursory and unsatisfactory manner.

2 – Poor. There are serious inherent weaknesses in relation to the criterion in question.

3 – Fair. While the proposal broadly addresses the criterion, there are significant weaknesses that would need correcting.

4 – Good. The proposal addresses the criterion well, although certain improvements are possible.

5 – Excellent. The proposal successfully addresses all relevant aspects of the criterion in question. Any shortcomings are minor.

In order to consider the merit of reentries in the scientific activity after career breaks, including parental leave, the overall scores of candidates who document career breaks in their curricula will be increased by 1% per each year of career break (and proportionally for fraction of year) up to 4 years (i.e. 4 % maximum increase of score).

An overall threshold of 70% will be applied to the total weighted score.

2. Research options offered by the programme

2.1 Research options in terms of the triple "i" dimension (inter- national mobility, inter-sectoral exposure, and inter-disciplinarity).

International mobility

Mathematics is a global enterprise: research results are published in peer-reviewed journals which have international boards of editors; they are presented at international conferences or posted informally on the World Wide Web and made accessible to the community at large; international collaborations are the rule among leading researchers. It is therefore very important that a mathematical researcher acquires this *modus operandi* from the very beginning of her/his scientific training.

All the fellowships delivered by the INdAM-DP-COFUND-2015 Programme are of type Incoming; hence full mobility of the fellow is required, from the country of origin to Italy. This requirement will contribute to the creation of international collaborations from the early career stage, both for the fellows and for their Italian colleagues. Nevertheless, in order to fully exploit the transnational potential of the programme, fellows will be encouraged to spend part of their fellowship in the foreign prestigious Universities and Institutes collaborating with the PhD Schools involved in the programme. The fellow's *individual research project* (see par. 3.1) will necessarily include such stays, and the Research Cost Contribution (RCC) will help fellows with travel and lodging expenses.

Intersectoral exposure

Fellows are encouraged, in their personalized career development plan (see paragraph 3.1), to spend some period at the premises of a non-academic organisation, especially industries, to carry out there some research activity related to their PhD thesis, to deepen the applicative aspects of their studies, to acquire specific sets of skills, or to improve their career perspectives. The Programme provides incentives for a non-academic organisation, which will be paid a fee of 500 EUR/month, up to 4 months, during the secondment period at its premises.

For each interested fellow, an agreement between INdAM and the non-academic organization will be signed, in order to ensure appropriate conditions such as: office space; access to equipment, materials and consumables; laboratory facilities; access to libraries, and the appointment of a Tutor from the organization for the secondment period.

In addition to cross-sectoral elements provided by the Doctoral schools, the INdAM programme “Visiting professors for the PhD” will appoint each year, among the Visiting Professors, some experts or researchers from the industry or other non-academic sector, in order to deliver courses on technological transfer, entrepreneurship, exploitation of research results, patenting, etc. Each course will take place at one of the partner organizations, but all the fellows will be allowed to attend, either by reimbursement of travel and stay expenses or by internet connection. The personalized career development plan (see paragraph.3.1) must include the participation of each fellow to some of such courses.

For the above reasons, participating non-academic organisations are likely to view the INdAM-COFUND-DP-2015 programme as an important opportunity for the recruitment of highly valuable employees, as well as an important channel to strengthen their links with the academic sector.

Training in non-scientific skills will be offered to the fellow by the chosen PhD School and directly by INdAM, as mentioned in the following paragraph 3.1.

Interdisciplinarity

The Programme is open to every aspect of training and research in all fields of Mathematics, including the most applied and interdisciplinary aspects in natural and social sciences, e.g. Physics, Biology, Chemistry, Finance and Economics, applications to Computer Science, to Engineering, to Industry and Technology.

The personalized career development plan (see paragraph 3.1) must include the participation of each fellow in at least two courses in the above disciplines.

Finally, some scientific activities oriented to acquiring applicational abilities in different domains and disciplines will be offered to the fellow directly by INdAM, as mentioned in the following paragraph 3.1.

3. Career guidance and training

3.1 Supervision arrangements

· Specific mentoring or support schemes in place to support career development.

Successful candidates are embarked in the chosen PhD programme at one of the partner organizations (**the Host**). The Board of Professors (Collegio dei Docenti) of the PhD programme appoints a **Supervisor** for the fellow, ordinarily among the members of the Board itself, in order to provide academic support to the fellow. The fellow, with the assistance of the Supervisor, will outline a *Personal Career development plan* (hereafter: career plan) including:

-A list of courses (especially during the first year), seminars, workshops, conferences, and other scientific activities and events organized inside the PhD programme to be attended.

-Intersectoral activities, e.g. the opportunity of spending some period at the premises of one of the non academic participants to the Programme, to carry out there some research activity related to their PhD thesis, deepen the applicative aspects of their studies, acquire specific sets of skills, improve the career perspectives, participate to courses given by experts or researchers from the industry or other non-academic sector (INdAM Programme “Visiting professors for the PhD”).

- Interdisciplinary activities and training; e.g. the participation of each fellow to courses in other disciplines than mathematics (e.g. Physics, Biology, Chemistry, Finance and Economics, applications to Computer

Science, to Engineering, to Industry and Technology).

- Additional scientific training, both at the Host and at INdAM premises;

- Training in non-scientific skills;

- Potential of acquiring competencies during the fellowship to improve the prospects of reaching and/or reinforcing a position of professional maturity, diversity and independence, in particular through exposure to complementary skills training.

- The opportunity of spending part of their fellowship in the foreign prestigious Universities and Institutes collaborating with the PhD Schools involved in the programme.

At the beginning of the first year, the fellow, with the assistance of the supervisor, will choose a PhD **research Director**, who will assist the fellow in outlining an *individual research project*, which eventually will give rise to a PhD thesis. The research project will include research stays in foreign Universities and Institutes collaborating with the PhD Schools involved in the programme, and will desirably include activities to be performed at the premises of a non-academic organization, which cooperates to INdAM-DP-COFUND-2015 Programme.

The fellow, in addition to the research activity, will take part in seminars, conferences, schools, workshops, including activities oriented to the acquisition of complementary skills, at the Host premises.

The Host will provide appropriate research training for each fellow, according to the training objectives (“obiettivi formativi”) provided for by the PhD Programme, as listed in the dedicated website of the Ministero dell'Istruzione Università e Ricerca, and will ensure that each fellow is given appropriate working conditions, such as: office/lab space, access to equipment, material and consumables, laboratory facilities (in particular for scientific computing), access to libraries, access to seminars, conferences, workshops and other scientific activities and events organized inside the PhD programme.

Moreover, INdAM will offer fellows membership of National Research Groups, ensuring access to facilities offered by INdAM Research Units located at Italian Universities.

Fellows participating in activities organized by INdAM or any of the INdAM National groups may get further support for travel. Fellows are invited to join the INdAM National groups also to be able to apply for this support. However, these additional research contributions are not guaranteed, because applications by fellows, as for any other member, will need approval by the Scientific Council of the Group.

In order to further help the fellows in deepening their skills within their discipline, to gain new skills in other disciplines and in acquiring non-scientific skills, INdAM will offer each fellow a mentoring-training scheme tailored on her/his needs. The scheme will consist of three types of activities:

- 1) Scientific activities related to the fellow research program;
- 2) Scientific activities oriented to the acquisition of applicational abilities in different domains and

disciplines;

3) Training in non-scientific skills.

1) Scientific activities related to the fellow research program.

These activities will mainly take place at the partner institution, where the career plan of the fellow is carried out. The partner institution commits itself to providing access to seminars, conferences, workshops and other scientific activities and events taking related to its PhD Programme. In addition, INdAM will offer to the fellows a large choice of Meetings, seminars, courses, schools, intensive periods either directly organized by the Institute or by other Institutions under special agreements. These events are listed below as “INdAM meetings”, “INdAM workshops”, “INdAM intensive periods”, etc.

The research cost contribution RCC that INdAM will pay directly to the fellow can be used to support their participation to those events. Participation to events 2) d) and 2) h) listed below, as well as participation to one event among 2) a) and 2) b) on the second and third year of the fellowship, will be directly supported by INdAM on its own budget.

2) Scientific activities oriented to the acquisition of applicational abilities in different domains and disciplines.

a) Participation in some “INdAM Meetings”. Fellows will be invited to take part in at least two Meetings (one per year).

(“INdAM Meetings” are periods of one week of study and research on a specific topic with the participation of about twenty invited researchers, at least 10 of them from abroad. The Proceedings are published in issues of the “SPRINGER-INdAM Series”, a book series published by Springer under the supervision of INdAM).

b) Participation in some “INdAM Workshops”. Fellows will be invited to take part at least at one workshop.

(Each workshop is organized by two directors and consists of lectures and short lecture series on themes and topics, which focus on fast developing and newly, emerged areas. The duration is 4 to 5 days and involves 20 to 25 invited participants, either established specialists or promising young researchers; the Proceedings are published in issues of the “SPRINGER-INdAM Series”).

c) Participation to some of the activities of “INdAM intensive periods”.

(They are scientific activities such as schools, seminars, Conferences, collaborations, round tables, open discussions... on themes having substantial and significant mathematical content and being likely to contribute to the advancement of the mathematical sciences. They bring together mathematicians and scientists of international standing, with an appropriate balance of age and gender; they are focused with clearly defined aims and objectives and are of a size, type and duration (two to three months) suitable to the stated aims and objectives).

d) Participation to one of the annual meeting organized by the Equal Opportunity Committee of the programme at INdAM premises (directly supported by INdAM).

e) Participation to the scientific activities of INdAM National Research Groups. Among the activities are schools, conferences, seminars.

f) Participation to the scientific activities of INdAM Research Units located at the Italian Universities. Among the activities are courses, conferences, seminars.

g) Participation to the scientific activities of some Research organizations related to and partially supported by INdAM: CIME (Centro Italiano Matematico Estivo) Firenze, CIRM (Centro Internazionale per la Ricerca Matematica) Trento, Centro De Giorgi Pisa.

h) Participation to the “Giornata INdAM” (INdAM Day) which plays an important role to outline the recent developments and prospects in Mathematics. (The “Giornata INdAM” takes place every year in a different Italian university, with the purpose of illustrating to a general mathematical audience recent advances in mathematics).

3) Training in non-scientific skills.

INdAM will organize year by year some activities (courses and schools) especially intended for the fellows. The activities will take place at INdAM premises, or at INdAM research Units.

3.2 Training

· **Training on skills within the chosen discipline and/or to gain new skills.**

Although in Mathematics results of research are generally achieved by small groups or very often by a single researcher, it is vital to build networks of experts of the same area and of related fields because of the intertwining nature of the subject. Especially in contemporary research, the development of mathematics is based on contamination of many techniques and problematics. Because of this feature, from an early stage of

training as a researcher it is fundamentally important to develop contacts with colleagues and senior mathematicians. Creating occasions for mobility and offering chances to focus on research is therefore crucial in the careers of mathematicians. The scale of the programme is particularly important as it guarantees the correct international framework.

Furthermore the programme is open to every aspect of current research including the most applied and interdisciplinary aspects of Mathematics. Every possible interconnection of the research with private sector needs will be kept in the highest regard, taking into account cooperation with non-academic partners involved in the Programme.

Several activities, as described in paragraph 3.1 above, will be organized to support fellows in acquiring scientific skills in the chosen discipline, as well as scientific activities oriented to the acquisition of applicational abilities in different domains and disciplines.

· **Support and/or additional training in non-research oriented transferable skills.**

In order to improve their career development, fellows need also competences other than purely theoretical/technical ones. They will have to communicate, manage and plan projects, work in teams, look for money to carry out research, and so on.

INdAM will match such needs by organizing year by year some activities (courses and schools) especially intended for the fellows. The activities will take place at INdAM premises, or at INdAM research Units. Each fellow will participate to at least three activities.

At the end of the fellowship, the fellow will be invited to deliver a talk on the scientific results obtained in an official seminar organised by INdAM at its premises.

The final scientific results of the fellows will be displayed in a special section of the INdAM website and on the website of one of the INdAM National Research Groups.

3.3 Dissemination of the scientific results of the fellows

Relevant tasks are:

- ! to organise, at the end of each fellowship period, an official seminar at the premises of the chosen partner institution, and an official seminar at INdAM premises, about the scientific results obtained by the fellows;
- ! construction and maintenance of a special section on the INdAM website and of the INdAM National Research Groups where the final scientific results of the fellows will be displayed;
- ! to assist fellows in drafting their scientific papers and in searching appropriate Journals and publishers. Fellows will be encouraged to present research papers and publications at meetings and conferences, as advised by their supervisors. Moreover, fellows will be encouraged to meet students from the partner University and present their research results in an informal and informative shape, in order to promote, stimulate and disseminate access to studies in Mathematics and/or applications.

A special section of the INdAM website will be devoted to the final scientific results of the fellows. It will display the production of the fellow at the end of the fellowship (papers, seminars, scientific reports, scientific software, patents, copyrights...) and a CV. The existence of such website section will be advertised worldwide periodically, addressing in particular public and private research organisations and private enterprises. The fellow page will be hosted in the website for at least four years after the end of the fellowship, and will be periodically kept up-to-date.

3.4 Intellectual Property Rights issues.

Each fellow will be enrolled in a Department of the chosen University partner institution. Each such institution has its own Intellectual Property Right rules, coherent with EU and Italian law, which will be applied to any invention produced by the fellow. All PhD schools involved in the Programme foresee mandatory activities dedicated to promoting Intellectual Property and results of research. INdAM will assist fellows in publishing their results, in registering patents and copyrights, and in protecting Intellectual Property.

ALLEGATO 3 Ethical issues

· Ethical issues management. Compliance with the ethical principles of H2020.

INdAM is a public Institution, established as such by Italian law, and is subject to all ethical rules provided for by the Italian and European laws, including those reflected in the Charter of Fundamental Rights of the European Union and the relevant ethics rules of H2020. As a member of European Math. Society, INdAM has also approved and applies the “code of practice” of the EMS Ethics Committee (<http://www.euro-math-soc.eu/system/files/uploads/COP-approved.pdf>).

Past experience indicates that ethical issues are unlikely to arise in a research proposal in Mathematics and/or its applications. Should this be the case, the rules dictated by Italian laws, when applicable, and by EU Commission ethical principles for H2020, will be followed

The programme is devoted to support research in “Mathematics and/or its applications”; therefore proposals contemplating experiments on humans, animals, foetal issues/cells, human embryonic stem cells, human genetic material, human biological samples and human data collection are not included in the range of research themes of the programme. In case the proposed research needs experimental data to be processed, that should be acquired through scientific literature or scientific communications.

In any case the following fields of research shall not be financed (either directly or indirectly) under the INdAM-DP-COFUND-2015 Programme:

- proposals which contemplate experiments on humans, animals, foetal tissues/cells, human embryonic stem cells, human genetic material, human biological samples, human data collection;
- research activity aiming at human cloning for reproductive purposes;
- research activity intended to modify the genetic heritage of human beings, which could make such changes heritable;
- research activities intended to create human embryos solely for the purpose of research or for the purpose of stem cell procurement, including by means of somatic cell nuclear transfer;
- research activities destroying human embryos, including for the procurement of stem cells;
- research activities involving personal data (e.g. health, sexual lifestyle, ethnicity, political opinion, religious or philosophical conviction);
- research activities involving tracking the location or observation of people;
- research having direct military use;
- research having the potential for terrorist abuse.

The corresponding proposals will be considered ineligible by the INdAM staff and ruled out.

In any case when submitting their proposals, all applicants are required to complete an Ethics Issues 2(EIT). Applicants who flag ethics issues in the Ethics Issues Table have to complete in addition a more in depth Ethics Self-Assessment. Both the EIT table and the Ethics Self-Assessment are to be filled according to H2020 Ethics Guidelines.

Moreover, each proposal must also comply with all ethical rules in force at the corresponding partner University.

- Obligations regarding selected research proposals involving the use of human embryonic stem cells (hESC).

Notwithstanding the stipulations under Article 34.3 of the Grant Agreement, the beneficiary (INdAM) shall inform the Research Executive Agency (REA) in writing of any research project selected for funding that may involve the use of human embryonic stem cells (hESC). Such research may not start without the

approvals of the EC ethics review and of the relevant Programme Committee completed by the communication of the explicit approval in writing from the REA to the beneficiary.

If the beneficiary breaches any of its obligations regarding selected research proposals involving the use of human embryonic stem cells (hESC), the grant may be reduced (see Article 43 of the Grant Agreement) and the Grant Agreement may be terminated (see Article 50 of the Grant Agreement) without prejudice to any of the other measures described in Chapter 6 of the Grant Agreement.

ALLEGATO 4

Open access to scientific publications

The fellow must ensure open access (free of charge online access for any user) to all peerreviewed scientific publications relating to his results. In particular, he must:

(a) as soon as possible and at the latest on publication, deposit a machine-readable electronic copy of the published version or final peer-reviewed manuscript accepted for publication in a repository for scientific publications; moreover, he must aim to deposit at the same time the research data needed to validate the results presented in the deposited scientific publications.

(b) ensure open access to the deposited publication — via the repository — at the latest:

(i) on publication, if an electronic version is available for free via the publisher, or

(ii) within six months of publication (twelve months for publications in the social sciences and humanities) in any other case.

(c) ensure open access — via the repository — to the bibliographic metadata that identify the deposited publication.

The bibliographic metadata must be in a standard format and must include all of the following:

- the terms "Marie Skłodowska-Curie Actions";
- the project name: "INdAM Doctoral Programme in Mathematics and/or Applications Cofunded by Marie Skłodowska-Curie Actions", acronym: INdAM-DP-COFUND-2015, and grant number: 713485
- the publication date and length of embargo period;
- a persistent identifier.