FOUR-STAGE RESEARCH CAREER AT IDIBAPS

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Several studies aimed to define a European framework for research careers have converged in a four-stage research career framework which starts with the training of researchers through PhD programmes and continue with their subsequent development as independent researchers[1,2,3].

1. Towards an European Framework for Research Careers. European Research Area Steering Group on Human Resources and Mobility (ERA – SGHRM), 2011.
2. Research Careers in Europe: Landscape and Horizons. European Science Foundation (ESF), 2010.
3. Harvesting Talent: Strengthening Research Careers in Europe. League of European Research Universities (LERU), 2010.

Following this four-stage career framework, we propose four broad profiles for researchers into which all research positions at IDIBAPS can be attributed. We also show the different positions available in the institution and how they are funded at each stage.

R1 Pre-doctoral Researcher
R2 Recognized Researcher
R3 Established Researcher
R4 Group Leader

The IDIBAPS career map is shown in Appendix 1. Each stage (R1 to R4) contains a special track for those researchers who combine research with clinical activity (clinician scientists, grey background).

Due to the complexity and diversity of profiles, both R2 and R3 categories have been subdivided into different subcategories A, B or even C in the case of R2 researchers. Researchers in R2B and R3B categories are considered tenure-track researchers with possibilities to become a consolidated R4 researcher.

R1 – Pre-doctoral Researcher

Individual who is in the early stage (<5 years) of his/her research activity and has not yet been awarded a doctoral degree, always carrying research under the supervision of a mentor. He/she needs to have student status (doctoral programme enrolment), being employed by the institution (or members of the consortium), and have limited teaching or research activities beyond his/her predoctoral work.

- **PhD – FI, FPI, FPU, PFIS, iPFIS, INPhINIT, etc**. Competitive calls from the Generalitat de Catalunya (FI-DGR); the Government of Spain (FPI, FPU, PFIS and iPFIS); "la Caixa" Foundation (INPhINIT); and others. Duration: 3-4 years.
- **PhD – Other**. Non-competitive positions, usually depending on a particular grant or private funds obtained by a more senior researcher. Duration: 3-4 years.

- **MD/PhD – PhD4MD**. Competitive calls from the IDIBAPS (together with CRG, IRB and VHIR) or the Generalitat de Catalunya (PERIS). Duration: 3 years.
- **MD/PhD – RH (Río Hortega)**. Competitive call from the Government of Spain (ISCIII). Duration: 2 years.
- **MD/PhD – Post-residency Clinic Research Contract (PRCRC)**. Competitive call from the Hospital Clinic (HCB). Duration: 2 years.

R2 – Recognized Researcher

R2A – Postdoctoral Researcher

Individual who has received a doctoral degree and is engaged in a temporary and defined period of mentored advanced training, to enhance the professional skills and research independence needed to pursue his or her open chosen career path. They still do not have their own grants as principal investigator (PI) and may have limited teaching activities beyond their research work.

- **Postdoc – BP (Beatriu de Pinós), JdC (Juan de la Cierva) Formación/Incorporación, SB (Sara Borrell), ICT (Incorporació de Científics i Tecnòlegs), etc.** Competitive calls from the Generalitat de Catalunya (BP, ICT); the Spanish Government (JdC, SB); and others. Duration: 2-3 years.
- **Postdoc – Other**. Non-competitive positions, usually depending on a particular grant or private funds obtained by a more senior researcher. Duration: variable, ideally less than 5 years. Post-doctoral researchers (R2A) who have obtained the PhD degree more than 10 years ago will be automatically considered as assistant researchers (R2C).
- **Clinician postdoc – BITRECS**. Competitive call from the IDIBAPS. Co-funded by the European Comission (H2020, Marie Skłodowska-Curie Actions, COFUND Programme) and “la Caixa” Foundation. Duration: 3 years.

R2B – Junior Researcher (JR)

Post-doctoral researchers who are generally still in a temporary position but may/should start being the PI of their own grants and sign papers as senior author. They may have limited teaching activities beyond their research work.

- **Junior Researcher – JIN (Jóvenes Investigadores); JL “laCaixa” (Junior Leader “la Caixa”); MSCA-IF (Marie Skłodowska-Curie Individual Fellowship).** Competitive calls from the Government of Spain (JIN); “la Caixa” Foundation (Junior Leader “la Caixa”); and the European Commission (H2020, Marie Skłodowska-Curie Actions). Duration: 2-3 years.
- **Junior Researcher – RyC (Ramón y Cajal), MS (Miguel Servet)**. Competitive calls from the Government of Spain (MINECO and ISCIII, respectively). Duration: 5 years. During the last year of the RyC or the MS programme, R2B researchers will be evaluated by IDIBAPS for promotion to Junior Group Leader (JGL, R3B).

- **Junior Researcher – JR (Juan Rodés)**. Competitive call from the Government of Spain (ISCIII). Duration: 4 years.

R2C – Assistant Researcher (AR)

Recognized researchers (R2A) who obtained the PhD degree more than 10 years ago and have mainly had full-time dedication to research activity during this period. They may act as thesis cosupervisors but they are not independent researchers nor principal investigators (PI) of their own grants.

- **Assistant Researcher – Other –** Non-competitive positions, usually depending on a particular grant or private funds obtained by a more senior researcher. Duration: variable.

R3 – Established Researcher

R3A – Accredited Researcher

Researchers who make valuable contributions in terms of scientific productivity, fundraising, mentoring of students, etc. within a research group led by another researcher. They may have their own grants as PI and sign papers as senior author. They may have limited teaching activities beyond their research work.

- **Accredited Researcher – IDIBAPS**. Positively-evaluated researchers after the RyC or the MS period by MINECO or ISCIII who have not been promoted to junior group leaders, but proposed by the IDIBAPS Scientific Advisory Board to remain in the institution within a research group led by another researcher. First evaluation after 3 years and then every 5 years. Co-funded (50%) by the IDIBAPS and the research group in the first 3-year period and 100% by the IDIBAPS thereafter.
- **Accredited Researcher – UB (University of Barcelona), CSIC (Consejo Superior de Investigaciones Científicas), CIBER (Centro de Investigación Biomédica en Red), CAPSBE (Consorci d'Atenció Primària de Salut Barcelona Esquerra)**. Staff scientists of the UB or the CSIC as members of the IDIBAPS consortium or staff scientists from CIBER or CAPSBE who have obtained the corresponding accreditation as IDIBAPS researchers (see accreditation requirements in each case).
- **Accredited Researcher – Other**. Non-competitive positions, usually depending on a particular grant or private funds obtained by another researcher. R2C researchers who have a strong research CV (similar to that of a R3 researcher) may be considered in this category. The recognition will need the approval of the IDIBAPS steering committee. Possibility to apply for funding as PI will be limited by the contract duration (or available funds) and analysed on a case by case basis. Duration: variable and renewable.
- **Accredited Researcher – HCB (Hospital Clinic)**. Medical staff specialist of the HCB as member of the consortium who have obtained the accreditation as IDIBAPS researcher.

- **IDIBAPS 50/50 Program Researcher**. Competitive call from the IDIBAPS and the HCB. Young medical staff specialist of the HCB (MD) with a strong research career (PhD) and a minimum 50% dedication to research. He/she must have clear future research ambitions of becoming a junior group leader. Duration: 5 years. During the last year, R3A reserachers 50/50 will be evaluated by IDIBAPS for promotion to junior Group Leader 50/50 (JGL, R3B).

R3B – Junior Group Leader (JGL)

Oustanding young scientists with demostrated excellent track record and clear future research ambitions to become a leader on their research area or field. They may have limited teaching activities beyond their research work.

- **Junior Group Leader – IDIBAPS**. Outstanding young scientists with demonstrated excellent track record and clear future research ambitions. Duration: 5 years. During the last year of the JGL position, R3B reserachers will be evaluated by IDIBAPS for promotion to senior Group Leader (GL, R4).

- **Junior Group Leader – IDIBAPS 50/50**. Competitive call from the IDIBAPS and the HCB. Young medical staff specialist of the HCB (MD) with a strong research career (PhD) and a minimum 50% dedication to research. He/she must have clear future research ambitions of becoming a senior group leader. Duration: 5 years. During the last year of the JGL position, R3B reserachers 50/50 will be evaluated by IDIBAPS for promotion to senior Group Leader 50/50 (GL, R4).

R4 – Group Leader

Researchers leading their research area or field. They publish influential papers (breakthroughs) and have an international reputation based on research excellence in their field, strategic vision on the future and broader implications of their research, serve on workshop and conference organising committees and deliver invited talks. They may have limited teaching activities beyond their research work.

- **Group Leader – IDIBAPS**. Researchers who have been promoted to Group Leaders after evaluation. Evaluation every 5 years.
- **Group Leader – ICREA**. Competitive call from the Fundació ICREA (Direcció General de Recerca, Generalitat de Catalunya). Evaluation every 5 years.
- **Group Leader – UB (University of Barcelona), CSIC (Consejo Superior de Investigaciones Científicas)**. Staff scientists of the UB or the CSIC as members of the IDIBAPS consortium who have been promoted to Group Leaders after evaluation.
- **Group Leader – IDIBAPS 50/50**. Researchers from the IDIBAPS 50/50 program (5+5 years) that have been promoted to senior Group Leaders after evaluation. Evaluation every 5 years.

- **Group Leader – HCB (Hospital Clinic)**. Medical staff specialists of the HCB as member of the IDIBAPS consortium who have been promoted to Group Leaders after evaluation.
- **IDIBAPS 80/20 Program Group Leader**. Competitive call from the IDIBAPS. Full-time medical staff specialist of HCB and IDIBAPS group leader who has gotten a minimum of 80% dedication to research for a defined period of time. Duration: 3 years, extendable for additional 2 years after evaluation.

TRANSITION BETWEEN STAGES: PROMOTION

- **R1 to R2**. Thesis defense and promotion to a position that has as a requirement to be a PhD holder.

- **R2 to R3**. The low number of R3 positions compared to post-doctoral positions is often seen as a bottleneck in a research career path. Junior Group Leader positions are highly competitive and require international experience.

    - **Promotion to Junior Group Leader (JGL, R3B)**. During the last year of the *Ramón y Cajal* (RyC) or the *Miguel Servet* (MS) programmes, R2B researchers will be evaluated for their potential as Group Leaders at IDIBAPS. The evaluation will be conducted by 2-3 selected internationally recognised experts in the field, an internal commission with the presence of one of the above-mentioned 2-3 external experts (face-to-face interview), and the final decision of the IDIBAPS Scientific Advisory Board with the approval of the IDIBAPS Governing Board. The evaluation will rely on the scientific leadership capacity and the institutional integration of the candidate as well as on the presented project proposal. The following parameters will be considered:
        - Track record (CV):
            - Demonstration of being able to lead excellent original and independent research with relevant impact in the field.
            - Publications, specially those as main author (first, senior and corresponding author), and impact in the scientific field.
            - Capacity to get research funds (national, international, private, human resources).
            - Transfer of knowledge.
            - Invited international conferences.
            - Thesis supervision.
            - National and international collaborations.
        - Five-year research proposal: scientific quality, feasibility and impact in the scientific field. Fitting in the host institution.

      The expected minimum requirements (publications, funded research projects, thesis supervision and others) to assess the promotion from **R2B to R3B** are shown in Appendix 2.

      The evaluation will give three possible outcomes:
        - **A**; *Outstanding performance*: promotion to Junior Group Leader (R3B).
        - **B**; *Satisfactory performance*: promotion to Associate Researcher (R3A) will be considered.
        - **C**; *Unsatisfactory performance:* no promotion. The R2B researcher will have up to one year to step down from the position (end of the institutional

funding). In case the researcher will be beneficiary of the Miguel Servet II programme, the co-fund options will be discussed on a case by case basis with the research group.

- **Incorporation as Junior Group Leader (JGL, R3B)**. Outstanding young scientists (not necessarily coming from the RyC or MS tracks) may be considered as Junior Group Leaders. A specific open call will regulate the evaluation process and criteria in that case, although there will be in line with those described for the promotion to Junior Group Leader (R2B to R3B, page 5).

- **Promotion to Junior Group Leader 50/50 (JGL 50/50, R3B)**. 50/50 researchers (R3A) will be considered for promotion to Junior Group Leader (JGL, R3B) after a five-year period. The evaluation will be conducted by 2-3 selected internationally recognised experts in the field, an internal commission with the presence of one of the above-mentioned 2-3 external experts (face-to-face interview), and the final decision of the IDIBAPS Scientific Advisory Board with the approval of the IDIBAPS Governing Board. The evaluation will rely on the scientific leadership capacity and the institutional integration of the candidate as well as on the presented project proposal. Evaluation will consider the same parameters as those described for the promotion to Junior Group Leader (R2B to R3B, page 5).

  The expected minimum requirements (publications, funded research projects, thesis supervision and others) to promote from **R3A 50/50 to R3B 50/50** are shown in Appendix 2.

  The evaluation will give three possible outcomes:

  - **A**; *Outstanding performance*: promotion to R3B up to next evaluation period. Salary depends on the professional career at HCB. Possibility to change to a 80/20 scheme.
  - **B**; *Satisfactory performance*: promotion to R3B up to the next evaluation period. Salary depends on the professional career at HCB.
  - **C**; *Unsatisfactory performance*: reevaluation in three years. In case of a new C score, the 50/50 researcher will have up to one year to step down from the IDIBAPS position (end of the institutional funding). Possibility of a full-time clinician position will be explored.
  - **D**; *Deficicient performance*: the 50/50 researcher will have up to one year to step down from the IDIBAPS position (end of the institutional funding). Possibility of a full-time clinician position will be explored.

- **R3 to R4**. Evaluation process that decides whether a researcher has to be promoted to senior Group Leader or not.

- **Promotion to senior Group Leader (GL, R4).** Junior Group Leaders (JGL, R3B) will be considered for promotion to senior Group Leader (GL, R4) after a five-year period. The evaluation will be conducted by 2-3 selected internationally recognised experts in the field, an internal commission with the presence of one of the above-mentioned 2-3 external experts (face-to-face interview), and the final decision of the IDIBAPS Scientific Advisory Board with the approval of the IDIBAPS Governing Board. The evaluation will rely on the scientific leadership capacity and the institucional integration of the candidate as well as on the presented project proposal. The following parameters will be considered:
    - Track record (CV):
        - Sustained record of conducting excellent relevant research that has a major impact on the field and/or changes clinical practice.
        - Publications as main author (senior and corresponding author), and impact in the scientific field.
        - Capacity to get research funds (national, international, private, human resources).
        - Transfer of knowledge.
        - Invited international conferences.
        - Thesis supervision.
        - National and international collaborations.
    - Five-year research proposal: scientific quality, feasibility and impact in the scientific field. Fitting in the host institution.

  The expected minimum requirements (publications, funded research projects, thesis supervision and others) to assess the promotion from **R3B to R4** are shown in Appendix 2.

  The evaluation will give three possible outcomes:
    - **A**; *Outstanding performance*: promotion to R4 up to next evaluation period with salary increase.
    - **B**; *Satisfactory performance*: promotion to R4 up to next evaluation period without salary increase.
    - **C**; *Unsatisfactory performance*: reevaluation in three years. In case of a new C score, the GL will have up to one year to step down from the GL position (end of the institutional funding). Chances for an outplacement as associate researcher (R3A) in a research group led by another researcher will be studied.
    - **D**; *Deficicient performance*: the GL will have up to one year to step down from the GL position (end of the institutional funding).

- **Incorporation as senior Group Leader (GL, R4).** As stated in the IDIBAPS Strategic Plan 2018-2022 (action 4.2.2.4), outstanding researchers, not coming from the promotion of an R3B researcher, may be considered as senior Group Leaders.

They must lead a research area within the scientific interests of IDIBAPS and have a sustained record of conducting exceptional research that has had a major impact on the field and/or changes clinical practice. The evaluation will be conducted by 2-3 selected internationally recognised experts in the field, an internal commission with the presence of one of the above-mentioned 2-3 external experts (face-to-face interview), and the final decision of the IDIBAPS Scientific Advisory Board with the approval of the IDIBAPS Governing Board. Evaluation will consider the same parameters as those described for the promotion to senior Group Leader (R3B to R4, page 6).

- **Promotion to senior Group Leader 50/50 (GL 50/50, R4).** Junior Group Leaders 50/50 (JGL 50/50, R3B) will be considered for promotion to senior Group Leader (GL 50/50, R4) after a five-year period. The evaluation will be conducted by 2-3 selected internationally recognised experts in the field, an internal commission with the presence of one of the above-mentioned 2-3 external experts (face-to-face interview), and the final decision of the IDIBAPS Scientific Advisory Board with the approval of the IDIBAPS Governing Board. The evaluation will rely on the scientific leadership capacity and the institutional integration of the candidate as well as on the presented project proposal. Evaluation will consider the same parameters as those described for the promotion to Senior Group Leader (R3B to R4, page 6).

  The expected minimum requirements (publications, funded research projects, thesis supervision and others) to promote from **R3B 50/50 to R4 50/50** are shown in Appendix 2.

  The evaluation will give three possible outcomes:

  - **A**; *Outstanding performance*: promotion to R4 up to next evaluation period. Possibility to change to a 80/20 scheme.
  - **B**; *Satisfactory performance*: promotion to R4 up to next evaluation period.
  - **C**; *Unsatisfactory performance*: reevaluation in two years. In case of a new C score, the 50/50 researcher will have up to one year to step down from the IDIBAPS position (end of the institutional funding). Possibility of a full-time clinician position will be explored.
  - **D**; *Deficicient performance*: the 50/50 researcher will have up to one year to step down from the IDIBAPS position (end of the institutional funding). Possibility of a full-time clinician position will be explored.

FOLLOW-UP OF THE RESEARCH CAREER

All the permanent positions at IDIBAPS will be subjected to regular evaluations as part of the follow-up process of their research careers.

- **R3A – Accredited Researcher IDIBAPS**. First evaluation after three years and then every five years. The minimum requirements to ensure the renewal of the Accredited Researcher position are shown in Appendix 2. The fulfillment of these criteria will be examined by an internal commission and the final decision taken by the IDIBAPS Scientific Advisory Board with the approval of the IDIBAPS Governing Board.
  The evaluation will give three possible outputs:
  - **A**; *Outstanding performance*: the researcher far exceeds the fulfilment of the requirements to renew the position. Continuation in the position up to the next evaluation period with salary increase (if possible and accordinig to the governing board approval).
  - **B**; *Satisfactory performance*: the researcher fulfil the evaluation requirements to renew the position. Continuation in the position up to the next evaluation period without salary increase.
  - **C**; *Unsatisfactory performance*: the researcher will have up to one year to step down from the position (end of the institutional funding).

- **R4 – Group Leader IDIBAPS (Senior)**. The evaluation will be conducted by 2-3 selected internationally recognised experts in the field (one of them in a face-to-face interview), an internal commission, and the final decision of the IDIBAPS Scientific Advisory Board with the approval of the IDIBAPS Governing Board. Evaluation will consider the same parameters as those described for the promotion to senior Group Leader (R3B to R4, page 6).
  The expected minimum requirements (publications, funded research projects, thesis supervision and others) to assess the **R4** position are shown in Appendix 2.
  The evaluation will give three possible outputs:
  - **A**; *Outstanding performance*: continuation in the position up to the next evaluation period with salary increase (if possible and according to the governing board approval). Those GL coming from the ISIS programme will get the first salary increase after receiving the 4th A score.
  - **B**; *Satisfactory performance*: continuation in the position up to the next evaluation period without salary increase.
  - **C**; *Unsatisfactory performance*: reevaluation in three years. In case of a new C score, the GL will have up to one year to step down from the GL position (end of the institutional funding). Chances for an outplacement as associate researcher (R3A) in a research group led by another researcher will be studied.

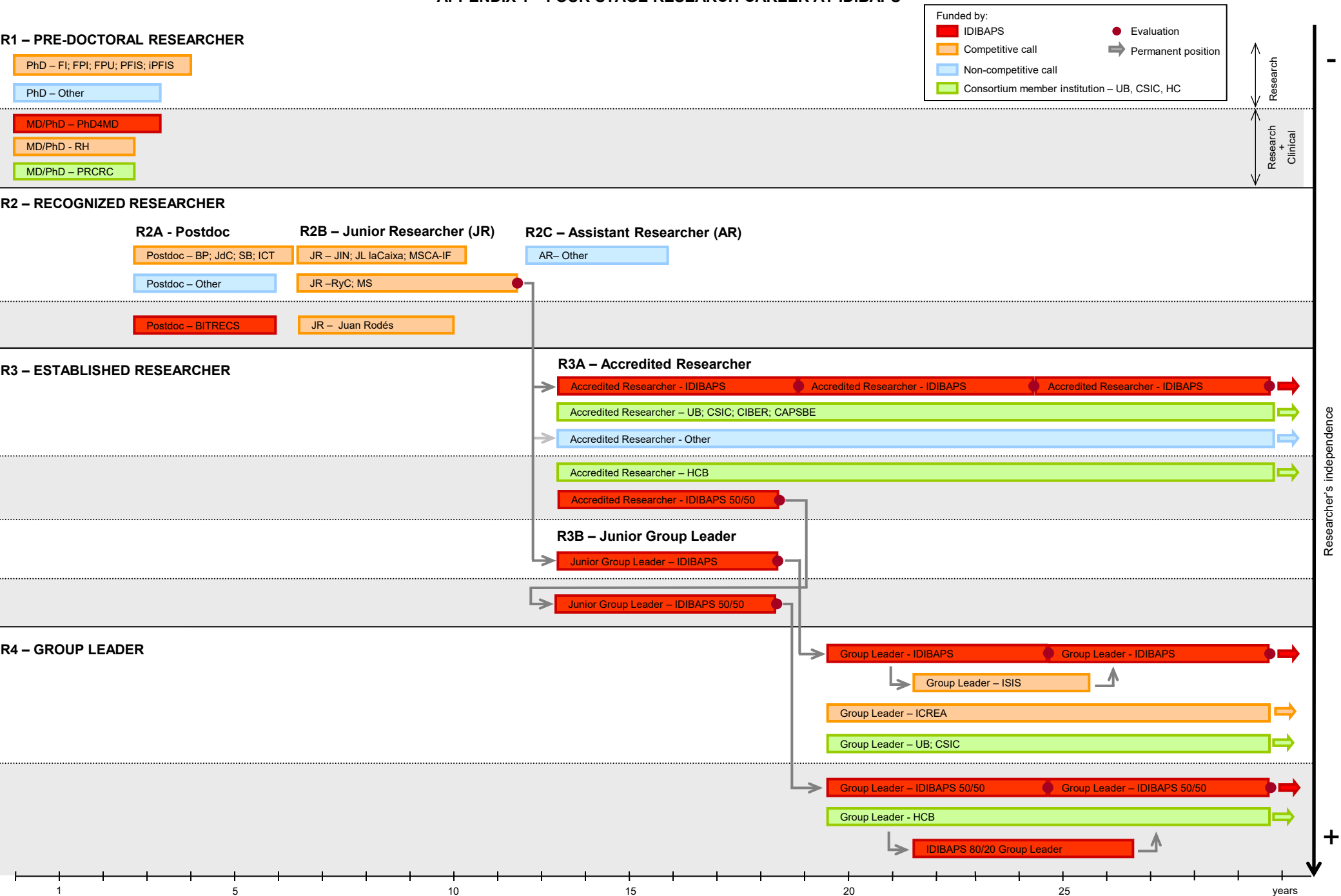
- **D**; *Deficicient performance*: the GL will have up to one year to step down from the GL position (end of the institutional funding).

- **R4 – Group Leader ICREA (Senior)**. The ICREA research professors will be subjected to the ICREA evaluation system. The IDIBAPS will only evaluate those ICREA researchers not passing the corresponding evaluation and will decide whether it assumes the cost of their salary or not. The evaluation will be conducted by 2-3 selected internationally recognised experts in the field (one of them in a face-to-face interview), an internal commission, and the final decision of the IDIBAPS Scientific Advisory Board with the approval of the IDIBAPS Governing Board.

- **R4 – Group Leader (Senior) from UB, CSIC, HCB**. Evaluation every five years considering the same parameters as those described for the promotion to senior Group Leader (R3B to R4, page 6). The fulfillment of the minimum criteria will be examined by an internal commission and the final decision taken by the IDIBAPS Scientific Advisory Board with the approval of the IDIBAPS Governing Board). Receiving a C score may lead to changes in the composition and leadership of the research group.

- **R4 – Group Leader IDIBAPS 50/50 (Senior)**. Evaluation every five years considering the same parameters as those described for the promotion to senior Group Leader (R3B to R4, page 6). The evaluation will be conducted by an internal commission and three selected members of the IDIBAPS Scientific Advisory Board (appointed by the SAB president) and the decision finally approved by the IDIBAPS Governing Board.

APPENDIX 1 – FOUR-STAGE RESEARCH CAREER AT IDIBAPS



APPENDIX 2 - EXPECTED REQUIREMENTS TO ASSESS THE POSITIONS

Evaluation	Publications	Funded research projects	Thesis supervision	Innovation/Recognition
Promotion to Junior Group Leader (R2B to R3B) **5 years**	Demonstration of being able to lead excellent original and independent research with relevant impact in the field. Minimal indicators are: 5 original articles in Q1 journals. 2 of them in D1 journals. 2 of them as main author (Q1 journals). High impact publications as main author will be particularly valued (A; outstanding performance) and may lead to the above-mentioned requirements not to be strictly applied.	Continuous funding as PI from national public agencies. Other competitive funding overlapped. International competitive funding will be particularly valued, especially ERC, NIH grants or coordination/participation as partner of H2020 projects (A; outstanding performance).	Supervision of 1 PhD thesis, ideally to completion.	Knowledge and technology transfer activity (patents, licences, etc.). Invited to speak in national and international conferences. Participation in journal editorial committees, conference organization committees, science dissemination activities. Participation in national and international collaborative studies with a relevant role including leadership.
Promotion to Senior Group Leader (R3B to R4) **Follow-up of Senior Group Leader (R4)** **5 years**	Sustained record of conducting excellent relevant research that has a major impact on the field and/or changes clinical practice. Minimal indicators are: 5 original articles in Q1 journals. 2 of them in D1 journals. 3 of them as main author (Q1 journals). High impact publications as main author will be particularly valued (A; outstanding performance) and may lead to the above-mentioned requirements not to be strictly applied.	Continuous funding as PI from national public agencies. Other competitive funding overlapped. International competitive funding will be particularly valued, especially ERC, NIH grants or coordination/participation as partner of H2020 projects (A; outstanding performance).	Supervision of 2 PhD theses. At least 1 to completion.	Knowledge and technology transfer activity (patents, licences, etc.). Invited to speak in high standard international conferences. Participation in journal editorial committees, conference organization committees, science dissemination activities. Participation in national and international collaborative studies with a relevant role including leadership.
Promotion to Junior Group Leader 50/50 (R3A to R3B) **Promotion to Senior Group Leader 50/50 (R3B to R4)** **5 years**	Evidences of being able to perform a sustained clinical and laboratory based translational research which may include studies of disease mechanisms, diagnostic techniques and/or other investigations that provide fundamental insight into the prevention, diagnosis or management of disease. Minimal indicators are: 4 original articles in Q1 journals. 3 of them as main author (Q1 journals). High impact factor publications as main author will be particularly valued (A; outstanding performance) and may lead to the above-mentioned requirements not to be strictly applied.	1 competitive grant as PI from national public agencies.	Supervision of 1 PhD thesis, ideally to completion.	Knowledge and technology transfer activity (patents, licences, etc.). Invited international conferences. Participation in journal editorial committees, conference organization committees, science dissemination activities. Positive HCB Head of Service and Chief of Medical Officer's (*Director Mèdic HCB*) evaluation.
Follow-up of Accredited Researcher IDIBAPS (R3A) **3/5 years**	3 (3-years) or 5 (5-years) original articles in Q1 journals. 1 of them as main author.	To have obtained 1 competitive grant (3 or 5 years) as PI (or co-PI).	1 PhD or 1 Master student.	Knowledge and technology transfer activity (patents, licences, etc.). Participation in journal editorial committees, conference organization committees, science dissemination activities. Positive IDIBAPS Group Leader evaluation. In case the Group Leader IDIBAPS have changed during the period, a relocation may be considered.

Main author = senior or corresponding author