



UNIVERSIDAD
COMPLUTENSE
MADRID

APPLICATION TO HR AWARD

HRS4R

ACTION PLAN

MARCH 2018



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1. CONTACT DETAILS

Name of Organisation under review:	COMPLUTENSE UNIVERSITY OF MADRID
Organisation's contact details:	Prof. José Manuel Pingarrón Cazarron Vice-Rector for Knowledge Transfer and Entrepreneurship email: vr.transferencia@ucm.es ; sec.transferencia@ucm.es Tel. +34 91394 3544/3585 Address Facultad de Medicina. Edificio Entrepabellones 7 y 8. Calle del Doctor Severo Ochoa, 7 – 3ª planta. Ciudad Universitaria. 28040 Madrid, Spain
Submission date:	20 March 2018
Date of Charter and Code Endorsement:	19th October 2017
Web link to published version of organisation's HR Strategy and Action Plan:	http://www.ucm.es/hrs4r



2. ORGANISATIONAL INFORMATION

2.1. Organisational profile

The Complutense University of Madrid is one of the richest in history and the largest one in Spain. Its offer includes 293 official academic programmes and 182 own titles. UCM hosts 74292 students, 6329 in PhD programmes.

UCM faculty and students conduct research that has far reaching impacts. UCM provides a wide range of opportunities to collaborate and work in state of the art facilities with abundant resources (Research Support Centres, Scientific Park, International Campus of Excellence). 573 research groups perform 732 active competitive research projects (45 European). UCM consistently appears as one of the leading Spanish institutions in international University Rankings.



2.2. Key figures of the organisation

The following table shows the main indicators regarding human resources and main research funding sources.

Table 1. Key Figures.

Staff & Students	FTE
Total researchers = staff, fellowship holders, bursary holders, PhD students either full-time or part-time involved in research	6.810
Of whom are international (i.e. foreign nationality)	188
Of whom are externally funded (i.e. for whom the organisation is the host organisation)	991
Of whom are women	3.198
Of whom are stage R3 or R4 = researchers with a large degree of autonomy, typically holding the status of Principal Investigator or Professor.	3.501
Of whom are stage R2 = in most organisations corresponding with postdoctoral level	1.173
Of whom are stage R1 = in most organisations corresponding with doctoral level	2.136
Total number of students (if relevant)	74.292
Total number of staff (including management, administrative, teaching and research staff)	10.088
Research Funding (figures for most recent fiscal year)*	47.758.350 €
Total annual organisational budget	523.000.000 €
Annual organisational direct government funding (designated for research)	0 €
Annual competitive government-sourced funding (designated for research, obtained in competition with other organisations – including EU funding)	36.707.038 €
Annual funding from private, non-government sources, designated for research	7.346.628 €

*Funds effectively received 2017 (different from funding awarded).



3. NARRATIVE

Table 2 shows an overview of the UCM in terms of strengths and weaknesses of the current policy and practice under the four thematic headings of the Charter and Code.

Table 2. SWOT analysis

STRENGTHS	WEAKNESSES
ETHICAL AND PROFESSIONAL ASPECTS	
<ul style="list-style-type: none"> Multiple internal regulations and procedures in place to guarantee that the ethical principles are met. Software to verify plagiarism in place. Regular evaluation procedures of research groups, research institutes, and individual researchers (concerning both research and teaching performance). Strong support services to research: infrastructure; Research Results Transfer Office; General Foundation (Project management) and Central Services (application, management, selection, etc.). Outreach: Diversity of mechanisms, events, <u>e-prints</u> open access repository. Policy of Open Access. Administration computing network with rigorous protocols, controlled and protected; centralized computing services. Clear and integrated security rules, numerous manuals and guidelines; medical and psychological service, social work service available. 	<ul style="list-style-type: none"> Staff is not sufficiently aware of the importance of ethical principles and codes in research. Codes and rules aren't sufficiently known. Relevant information on the research system: regulations, calls, funding, positions, etc. is hard to obtain as it is not unified. Committee on Ethics and Deontology exists but requires a considerable effort to be fully acting. Low exploitation of research results and scarce legal protection of intellectual property actives. Researchers are not sufficiently familiar with the different support services and opportunities provided by the institution. Researchers confess a general lack of knowledge concerning the data security and protection and management of research electronic equipment. Security procedures to be followed by researchers at laboratories are to be improved. <p>Most of the current information is not written in English.</p>
RECRUITMENT AND SELECTION	
<ul style="list-style-type: none"> All selection and recruitment procedures are strictly regulated. Internal regulations and procedures are developed according to legal framework. The processes are conducted in accordance with rules, including most of the merits defined in the OMT-R, adapted to position and professional category. Evaluation criteria and assessment methods are defined. Regulations include rules for the appointment of all selection committees as well as gender balance control. The recruitment of researchers belonging to disadvantaged groups is facilitated, according to the present national legislation. All information concerning calls and every step of selection processes managed by UCM is centralized at www.ucm.es/empleo-ucm. UCM website adapted to Spanish Transparency framework. All announcements include information concerning the selection process, selection criteria, number of positions. All processes (except staff hired within research projects) publish, at the end of the procedure, the results obtained by each candidate. Measures contributing to stabilization of postdoctoral researches in place. 	<ul style="list-style-type: none"> External legislation and accreditation system establish selection criteria; the flexibility offered by this context is not sufficiently well used in order to obtain the best candidates (except UCM predoctorals & research projects staff). The detailed scoring is published after the call is open. National and international dissemination of R1 and R2 researchers is not systematized. There is no automatic individual feedback to candidates at the start or at the end of the selection processes. In general terms, the announcements for R1 and R2 positions do not provide a wide description of the knowledge and competences required and desirable as such, or the career opportunities. The information is mostly provided in Spanish. Application deadlines are short. Selection committees for predoctoral positions are composed mostly by UCM members. Selection committees tend to make use mostly of quantitative tools. Allocation of PhD positions is currently defined by Schools rather than by PhD programmes. In general legislation and budget restrictions involve that the postdoctoral phase remains longtime, by using different types of contracts.



WORKING CONDITIONS AND SOCIAL SECURITY	
<ul style="list-style-type: none"> • Extensive internal regulation concerning the different positions available at UCM (including predoctoral and postdoctoral stages). • Time flexibility for researchers is almost total. UCM offers to all staff additional services on family life. • Stabilization plans have been defined, including researchers' profiles. • Salaries are established by national regulations and collective agreements. Portability of social rights is guaranteed by national legislation. • Office for Employment and Practices; Plan for Training for Employment; University Guidance Service; Institutional Training Plan for Teaching and Research Staff. • Formal acknowledgement of the right to mobility in selection processes; promotion of mobility at Research Service, International Relations Service and European R&D Office. • Complete information available at the website concerning regulation of intellectual property and co-authorship, support and legal advice service provided. • Advice and support provided for industrial exploitation of research results. • University Ombudswoman, the Inspection Service and the Claim Committee lead with claims and conflicts. • Participation in decision making bodies by researchers and students, established in the UCM's fundamental rules, regulated and promoted. 	<ul style="list-style-type: none"> • At laboratories there are clear weaknesses concerning the knowledge of rules, protocols and procedures. • The lack of funding for new positions is blocking the stabilization and promotion of postdoctoral researchers. • Lack of knowledge among younger researchers about the stabilization opportunities. • Spanish legislation establishes the teaching and research career as the one to be developed at universities (not only research). • Information about the possibilities to evolve in the research career, engagement possibilities (modalities, funding sources, requirements etc.) as such, integrated in a "career" context, is not provided. • The Office for Employment and Practices addresses its activity mostly to bachelor and master students. • There is no an official programme, or formal role of mentoring for young researchers, apart from the PhD directors and tutors.
TRAINING AND DEVELOPMENT	
<ul style="list-style-type: none"> • The organisation and procedures of the PhD studies and their supervision are clearly established, multiple information sources are available for students and supervisors and regulations are known and implemented. Code of Good Practices in PhD. • The recent activation of the PhD School will have an impact in the quality of PhD programmes and supervision process. • The need of a mentor is established by the regulation to hire postdoctoral staff at UCM. • Multi-role nature of researchers is established in the regulations and promoted by the evaluation systems, concerning research and teaching duties performance. • Access to continuing training or other professional development activities is guaranteed by regulations and promoted (permissions, funding, etc). A huge internal offer is continuously ongoing, distributed and centralized in different UCM services and centres. • Incentives for excellence: external evaluation of research performance of individuals, groups and institutes, internal evaluation of teaching performance. 	<ul style="list-style-type: none"> • The PhD School was created but not implemented during last years. The School could coordinate most transversal training activities and advice offered to predoctoral and postdoctoral students. • Services and information about training and advice opportunities are not centralized. • Advice and training offer provided by the UCM include, among others, the Training for Employment Plan and the UCM Practices and Employment Office. These activities are highly focused for degree and master students. Pre and postdoctoral students are not their target publics. This offer could be extended to them. • Lack of skills assessment for transversal skills developed during PhD studies specially.



4. ACTIONS

4.1 Actions to be undertaken in the HR strategy

The detected gaps were grouped into 15 actions of improvement that were the basis for the subsequent design of the Action Plan. Next table shows the list of these actions, that will be undertaken in our HR strategy. It includes the criteria that tries to improve, the action title, the estimated implementation time, the person in charge, and the performance indicators to monitor its application.

There is a Vice Rector or Vice-Manager responsible for the implementation of each of the actions with the support of Specific Working Teams and a Technical Secretariat.

- **JMPC:** José Manuel Pingarrón Carrazon, Vice-Rector for Knowledge Transfer and Entrepreneurship.
- **ILH:** Ignacio Lizasoain Hernández, Vice-Rector for Science Policy, Research and PhD Degrees.
- **MCM:** María Castro Morera, Vice-Rector for Quality.
- **LHY:** Luis Hernández Yáñez. Vice-Rector for Information Technologies.
- **LFM:** Lucila Finkel Morgenstern, Rector's Delegate for Lifelong Learning programmes, Internships and Employability.
- **MGB:** Mercedes Gómez Bautista, Vice-Rector for Academic Policy and Teaching Staff (includes researchers).
- **AGL:** Alejandra Gonzalez López, Vice-CEO for Research and Academic Policy.



Table 3. List of all actions

C&C	ACTION TITLE	CHRONOGRAM	RESPONSIBLE	IINDICATORS / TARGET
ALL	A1. Strength awareness, commitment and implementation of the Charter & Code criteria.	Q3 2018 to Q4 2022	MCM JMPC	<ul style="list-style-type: none"> • Online documents, available on HRS4R web page and Welcome Manual. • Periodical briefings celebrated. • New members at the Implementation Working Group. • Research Strategic Plan including HR-Action Plan's actions. • Periodic survey.
12, 13, 14, 15, 16, 17, 19	A2. Refine the UCM's Selection and Recruitment Procedure based upon OTM-R criteria.	Q3 2018 to Q2 2019	AGL / MGB	<ul style="list-style-type: none"> • OTM-R working team selected. • OTM-R protocol defined and published in intranet. • OTM-R Guide defined and published in intranet.
12,13, 14, 15, 16, 17, 19	A3. Implement, train, follow up and internal audit.	Q4 2018 to Q4 2022	AGL / MGB / MCM	<ul style="list-style-type: none"> • Training materials and modules available. • Internal Audit results.
2	A4. Develop the Committee on Ethics and Deontology and Create the Committee on Biosecurity.	Q1 2019 to Q3 2019	ILH	<ul style="list-style-type: none"> • Committee on Ethics and Deontology in operation. • Committee on Biosecurity in operation. • Ethics and Deontology Guide defined and published. • Biosecurity Rule and Guide defined and published. • Active dissemination among UCM community.
2, 3, 4, 5, 8, 9, 25, 31, 34	A5. Make information more accessible.	Q2-Q3 2019	JMPC	<ul style="list-style-type: none"> • New web page with information organized. • Monitoring survey.
2,3,4,5,7	A6. Improve good practices in Research.	Q1 2019 to Q2 2019	ILH	<ul style="list-style-type: none"> • Code of Good Practices in Research published. • Ex ante & ex post self-assessment tools on Good Practices in Research available. • Training material on Good Practices in Research available.
7, 23	A7. Improve good practices in laboratories.	Q4 2019 to Q1 2020	JMPC	<ul style="list-style-type: none"> • Handbook of Good Practices in Laboratories published. • Ex ante & ex post self-assessment on good practices in laboratories available. • Training material on good practices in laboratories available.



3, 5, 8, 31	A8. Expand the technology transfer knowledge.	Q3 2019 to Q4 2019	JMPC	<ul style="list-style-type: none"> • Intellectual property Regulation defined. • Guide on Intellectual property & Industrial exploitation published. • Intellectual property regulation annex included in all new contracts. • Ex-ante and ex-post self-assessment tool on protection and exploitation of research results and training materials. • Dissemination of the recently created UCM technology portfolio as a measure to boost Technology transfer visibility (Complutransfer). • Increase valorisation actions.
5, 7	A9. Actions on information security, data protection and Open Access.	Q4 2020 to Q1 2021	LHY	<ul style="list-style-type: none"> • Rules on information security and data protection approved. • Guide on information security and data protection. • Guide on Open Access. • Training, self-assessment tools and self-training tools on information security, data protection and Open Access.
25, 28, 30	A10. Provide information and support concerning the research career at UCM and in Spain.	Q3 2018 to Q4 2018	JMPC	<ul style="list-style-type: none"> • Web site published. • Information and support services ongoing.
25, 28, 30	A11. Design and implement a pilot program on Post Doc Mentoring.	Q2 2020 to Q3 2021	ILH	<ul style="list-style-type: none"> • Evaluation results of the pilot program on Post Doc Mentoring. (number of postdoc researchers engaged in mentorship programme). • Guide of mentorship programme published. • Training courses on mentorship available for mentors.
36	A12. Design and implement a pilot Training program for young PhD thesis directors.	Q3 2018 to Q4 2019	ILH	<ul style="list-style-type: none"> • Evaluation results of the pilot program for young PhD thesis directors at the PhD School. Satisfaction survey.
39	A13. Design a training offer in transversal skills.	Q2 2020 to Q3 2020	LFM/ILH	<ul style="list-style-type: none"> • Models of existing and suggested Map of professional competences published. • Training offer in transversal skills available, participation of the PhD School.
39	A14. Design a pilot program on certification of transversal skills.	Q3 2020 to Q2 2021	LFM/ILH/MCM	<ul style="list-style-type: none"> • Evaluation results of the pilot certification of transversal skills, participation of the PhD School.
2, 3, 4, 5, 7, 8, 9, 12, 23, 28, 31, 34, 39	A15. Define the UCM's Welcome Pack	Q1 2019 to Q4 2020	ILH	<ul style="list-style-type: none"> • UCM Welcome Manual shall be created in an evolutionary way. It shall incorporate the different items identified in this table, progressively as they are prepared according to the action plan. • UCM Welcome Manual finished and published. • UCM training courses for new comers available.



Table 4 presents an extended version in which the actions are described in more detail.

Table 4. Description of the actions

ACTION TITLE	DESCRIPTION
A1. Strength awareness, commitment and implementation of the Charter & Code criteria.	<p>The goal of this action is to attain an increasing involvement of the C&C criteria in the research community and in everyday research practices.</p> <ul style="list-style-type: none"> • Include the actions defined in this Action Plan in the Research Strategic Plan of the UCM. • Prepare online material explaining the advantages of the application of the C&C principles and updates of the HRS4R website, distribute it among all the researchers and incorporate this information into the Welcome Manual for newcomers. • Schedule periodical briefings in departments to influence the dissemination of the C&C key lessons to research staff. • Schedule periodical briefings to the institution's management committees and boards to introduce the OTM-R and C&C key lessons to the administration staff. • Incorporation of new researchers that wish to join the Implementation Working Group (IWG) for specific working teams and to become "Delegates for HRS4R".
A2. Refine the UCM's Selection and Recruitment Procedure based upon OTM-R criteria.	<ul style="list-style-type: none"> • Creation of the "OTM-R Implementation Working Team" with the task of: i) reviewing the processes of selection and recruitment of researchers, ii) follow up of the implementation for the progressive adaptation to the OTM-R system. The group will develop the following Actions: • Development of procedures and protocols for the implementation of the OTM-R system in the recruitment of researchers with contracts: i) "UCM predoctoral contracts" y ii) "Researchers funded by external projects" • To create guidelines, tools, etc. to: i) a better dissemination of announcements; ii) a better description of vacancies; iii) promote a better assessment of merits; iv) contribute to define a blended system including not only quantitative methods but qualitative criteria also when possible and appropriate, and to consider the interviews as a method for assessing merit; v) to promote the participation of external experts in the selection committees at all levels; vi) to ensure that gender approach is effectively applied in selection processes (composition of panels, consideration of maternity leaves and similar, avoid unconscious bias); etc. • If necessary, specific training actions will be provided to the administrative staff and researchers involved in recruiting processes based on the implementation of the OTM-R system. • A reference of the procedure will be included in the Welcome Manual. • Possible cooperation with SUPERA European project.



<p>A3. Implement, train, follow up and internal audit.</p>	<ul style="list-style-type: none"> • Training materials / modules on the different phases of the OTM-R system will be developed. • Specific training will be provided to the selection committee members. • The OTM-R Implementation working team will design and implement a continuing internal monitoring with the support of the Vice-Rector for Quality, to check the level of implementation, e.g. participating as observers in the selection processes, interviewing users, statistics by gender and R scale, etc. • Possible cooperation with SUPERA European project.
<p>A4. Develop the Committee on Ethics and Deontology and Create the Committee on Biosecurity.</p>	<p>For the Biosecurity Committee:</p> <ul style="list-style-type: none"> • Define its activities, composition, assignment times and operating mechanisms. Include in its composition members of all the researcher's scales. • Write the rule for the Committee on Biosecurity. • Approve the creation of the Committee at the UCM Council. • Write a Guide for the Committee on Biosecurity attributions. <p>For the Committee on Ethics and Deontology:</p> <ul style="list-style-type: none"> • Write a Guide for the Committee on Ethics and Deontology attributions. <p>Present and actively promote the knowledge about both committees and regulations to the UCM community and start the activities of both committees. Publish in the web site, include in welcome pack.</p>
<p>A5. Make information more accessible.</p>	<ul style="list-style-type: none"> • An entry will be created at the UCM's Website, providing links for searching information customized by R profile. In this way, access to the services of interest to researchers will be facilitated according to their professional profile. • Complete, unify and organize information concerning any topic regarding research, both: 1) codes and rules, guides, etc. (on ethics, funding and performance of research, CRUE Handbook on economic justification of projects, etc.), and 2) services (Tech Transfer Office, International Projects Office, etc.). • Actively promote the knowledge about the website: Announcement in the general UCM website, include in welcome pack, workshops if appropriate.
<p>A6. Improve good practices in Research.</p>	<ul style="list-style-type: none"> • Create the code of Good Practices in research based on fundamental principles of research integrity defined by the EC: Reliability, Honesty, Respect, Accountability. The code will describe good research practices in the following contexts: Research Environment, Training, Supervision and Mentoring, Research Procedures, Safeguards, Data Practices and Management, Collaborative Working, Publication and Dissemination, Reviewing, Evaluating and Editing. The Code will additionally include e.g.: Commitment to inform about contingencies in research projects; Compliance with UCM Policies, Submission of Research Proposals, Ethical and Regulatory Issues, Intellectual Property and Commercialization, Conflicts of Interest, Documenting Results, Responsibilities for Good Research Practice, etc. The Code of Good Practices will be available online to all newcomers and present research staff. • Design an ex ante & ex post self-assessment tool and self-training material for Good Practices in Research. • Actively promote the knowledge about the Code: Publish in the web site, include in welcome pack, workshops if appropriate.



<p>A7. Improve good practices in laboratories.</p>	<ul style="list-style-type: none"> • Create or adapt a Handbook of Good Practices in Laboratories including specific topic for each of the laboratories, e.g.: health and hygiene, basic safety, laboratory equipment uses and maintenance, workplace hazardous materials information system, emergency equipment and procedures, etc. • Design an ex ante & ex post self-assessment tool for Good Practices in Laboratories. • Publish in the web site, include in welcome pack.
<p>A8. Expand the technology transfer knowledge.</p>	<ul style="list-style-type: none"> • Write the Intellectual Property (IP) policy and formally adopted rules, which 1) clarifies the ownership of and right to use the IP resulting from the institution's own or collaborative R&D activities; ii) sets out the rules of the UCM on how to accurately identify, evaluate, protect and manage IP for its further development, usually through some form of commercialization; and iii) provides a transparent framework for cooperation with third parties and provides guidelines on the sharing of economic benefits arising from the commercialization of IP (as incentive to protect and exploit, also). • Write a Guide on Intellectual Property and Industrial exploitation. • Design a Quick self-assessment tool on protection and exploitation of research results. • A specific annex of current IP regulations of the Institution will be included to the new contracts and info will be distributed to the newcomers, for their signed ratification. • Write a Guide / Handbook on tech transfer (TT) and transfer of knowledge (ToK) based on a set of activities addressed at disseminating knowledge, experience and skills with the aim of offering access to the use, application and exploitation of the knowledge and skills in R&D generated by the UCM to the production sector or among society in general. • Publish in the web site, include in welcome pack.
<p>A9. Actions on information security, data protection and Open Access.</p>	<ul style="list-style-type: none"> • Update the UCM Policy on information security and data protection (internal rules). The purpose is to define baseline security controls for protecting UCM Data. Policy approved in the UCM Council. • Write a Guide on information security and data protection. • Adopt or disseminate the guide on Open Access "Guidelines to the Rules on Open Access to Scientific Publications and Open Access to Research Data in Horizon 2020" v2017. • Design an ex ante & ex post self-assessment tool and self-training material on information security, data protection and Open Access. • Training courses on information security, data protection and Open Access will be provided. • Written commitment on use of equipment and data protection at arrival. • Publish in the web site, include in welcome pack. • Consider adapting to FAIR principles for research data.



A10. Provide information and support concerning the research career at UCM and in Spain.	<ul style="list-style-type: none">• Identify, disseminate and provide external tools concerning the research career in Spain. Adapt existing tools and make them ready for the final users on research career at UCM, including such information for the different possible paths: positions, access, requirements, funding, itineraries for Employment and Practices, the PhD School, etc.• Additionally, it will clearly describe the minimum qualifications needed to enable the promotion to a higher research step.• For young researchers: give information and support (provided by the PhD school and the job practice office), to train and develop researchers, support excellent individuals at critical points of their careers and help address research skills priorities.• Publish in the web site, include in welcome pack.• Participation of the PhD School.
A11. Design and implement a pilot program on Post Doc Mentoring.	<ul style="list-style-type: none">• Conduct a satisfaction survey for various stakeholders on Postdoctoral education (students, supervisors, coordinators, etc.).• Benchmark international practices on functions and skills for Post doc mentorship.• Since the postdoc appointment is assumed to be a stepping-stone to a career, postdocs and their mentors should: i) discuss career plans and job search strategies; ii) Support/encourage the postdoc to present their work at scientific meetings; iii) Help the postdoc engage in networking; iv) Play an active role in the postdoc's job search; etc.• Design the UCM's Mentorship Pilot Programme, including both career development advice (mobility, training, professional paths, etc.), and academic advice. The Mentor, as a more experienced senior researcher, should guide and advise junior researchers about the most convenient way to develop his /her talent for answering personal and professional challenges of his life, and to seek, if necessary, alternative opportunities inside or outside the research career.• Preparation of a guide of good mentorship practices.• Set up a pilot mentorship programme.• Training courses for Mentors.• Implement the pilot programme, evaluate, review and extension if adequate.• Publish in the web site, include in welcome pack if adequate.



A12. Design and implement a pilot Training program for young PhD thesis directors.	<ul style="list-style-type: none">• Design a pilot Training program for young PhD thesis directors.• Implement the pilot programme, evaluate, review and extension if adequate.• Publish in the web site, include in welcome pack.• Participation of the PhD School.
A13. Design a training offer in transversal skills.	<ul style="list-style-type: none">• Provide examples of map of professional competences. Identify key professional competences for R1-R4 benchmarked based on European Framework.• Perform a consultation to PhD students (survey or workshops) concerning main interests and needs related to development of transversal skills.• European benchmarking of transversal skills including current contents of the teaching and research staff and Pre Docs plan.• Design a training offer in transversal skills, e.g. Workshops on »Presenting Science« (Grant Writing for Scientists, Writing Scientific Publications, Writing a Publication – together with the trainer, Poster Design and Presentation, Oral Presentation Skills, etc.), Workshops on »Managing Science« (Project Management for Scientists, Solving Conflicts in the Lab, Leading Your Group to High Performance, Managing Diversity in Communication, Profitable Talks and Meetings, etc.), Additional Skills (Intellectual Property in Science, Critical Reasoning and Logic, Starting your Career in Private Enterprises, etc.).• Implement the training programme, evaluate and review if adequate.• Publish in the web site, include in welcome pack.• Participation of the PhD School.
A14. Design a pilot program on certification of transversal skills.	<ul style="list-style-type: none">• Define the certification procedures of transversal skills developed during PhD programmes.• European benchmarking of certification procedures of transversal skills.• Implement the pilot certification, evaluate, review and extension if adequate.• Participation of the PhD School.



A15. Define the UCM's Welcome Pack.	<ul style="list-style-type: none">• The Pack will include a Welcome manual and training. The pack shall be built and published progressively, incorporating the products of this action plan until completed.• The manual will include all the information concerning the procedures, rules, policies and resources available for the correct development of the research career at UCM, such as:• Professional issues: working conditions, contractual and legal obligations, professional responsibility, authorship recommendations, complaint/appraisal mechanisms, supervision and mentorship support, flexible working hours, relation with supervisors and mentors, commitment to inform about contingencies in research projects, etc.• Ethical issues: ethical code policy, non-discrimination principles and gender balance; research ethics, good laboratory practices, risk protection, data protection policies.• Intellectual property: IP regulation, technology transfer mechanisms and support from UCM.• Security: risk-protection and good practices in information technologies security and electronic data storage. Risk protection at Laboratories. Necessary commitments to comply with rules.• Career: career advice, recommendation of pursuing professional development courses, guidelines for the presentation of research results to internal or external funding organisms.• Outreach: UCM's Outreach Initiatives.• The information provided will be updated periodically.• The Welcome Manual will be available online to all newcomers and present research staff.• Training courses for newcomers will be designed for pre docs, post docs and other researchers.
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Table 5 presents the planned schedule of the implementation of the designed actions.

Table 5 Chronogram

ACTION TITLE	2018				2019				2020				2021				2022			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
A1. Strength awareness, commitment and implementation of the Charter & Code criteria.																				
A2. Refine the UCM's Selection and Recruitment Procedure based upon OTM-R criteria.																				
A3. Implement, train, follow up and internal audit.																				
A4. Create the Committee on Ethics and Deontology and the Committee on Biosecurity.																				
A5. Make information more accessible.																				
A6. Improve good practices in Research.																				
A7. Improve good practices in laboratories.																				
A8. Expand the technology transfer knowledge.																				
A9. Actions on information security, data protection and Open Access.																				
A10. Provide information and support concerning the research career in UCM and Spain.																				
A11. Design and implement a pilot program on Post Doc Mentoring.																				
A12. Design and implement a pilot Training program for young PhD thesis directors.																				
A13. Design a training offer in transversal skills.																				
A14. Design a pilot program on certification of transversal skills.																				
A15. Define the UCM's Welcome Pack.																				

4.2 Summary of the Gap Analysis and actions to implement the C&C criteria

During the Gap Analysis, four different series of data were gathered to evaluate the implementation of each of the 40 C&C criteria at UCM:

- 1) Perception of the implementation of the criteria, provided by the researchers' survey.
- 2) Perception of the relevance of the criteria, provided by the researchers' survey.
- 3) Number of researchers that ignore the implementation of the criteria, also provided by the researchers' survey.
- 4) Diagnosis of the criteria by the Working Groups.

Table 6 presents the data obtained by these four sets of data for each criterion, and the number and code of actions that were designed to implement each criterion at the UCM. Criteria 12, 23, 25, 28 and 30 correspond to the more relevant, less implemented criteria of the Gap Analysis document.

As it can be observed, all the criteria have between 1 and 9 associated actions for their implementation at the UCM. Five criteria were considered more relevant and less implemented by the researchers' survey: "25-Stability and permanence of employment", "28-Career development", "23-Research environment", "12-Recruitment" and "26-Funding and salaries". As "Stability and permanence of employees" and "Funding and salaries" were highly dependent on the availability of funding opportunities, the UCM will implement these two criteria within its capabilities.



Table 6 Summary of the diagnosis of the criteria and the number of actions designed for their implementation (1= not implemented 4= fully implemented).

	Implementation consolidated results	Relevance consolidated results	Implementation diagnosis	Nº of actions that improve the implementation of the criteria	Actions that improve the implementation of the criteria
01. Research freedom	4,00	3,87	Fully implemented	1	A1
02. Ethical principles	4,00	4,00	Almost but not fully implemented	5	A1, A4, A5, A6, A15
03. Professional responsibility	4,00	3,73	Almost but not fully implemented	9	A1, A5, A6, A8, A15
04. Professional attitude	3,68	3,33	Almost but not fully implemented	4	A1, A5, A6, A15
05. Contractual and legal obligations	3,68	3,47	Almost but not fully implemented	4	A1, A5, A6, A8, A9, A15
06. Accountability	4,00	3,87	Fully implemented	1	A1
07. Good practice in research	3,00	3,87	Almost but not fully implemented	5	A1, A6, A7, A9, A15
08. Dissemination, exploitation of results	3,66	4,00	Almost but not fully implemented	2	A1, A5, A8, A15
09. Public engagement	2,68	2,78	Almost but not fully implemented	1	A1, A5, A15
10. Non discrimination	4,00	3,87	Fully implemented	1	A1
11. Evaluation/ appraisal systems	3,00	3,06	Fully implemented	1	A1
12. Recruitment	2,34	3,60	Partially implemented	4	A1, A2, A3, A15
13. Recruitment (Code)	3,36	3,87	Almost but not fully implemented	2	A1, A2, A3,
14. Selection (Code)	2,68	3,47	Almost but not fully implemented	3	A1, A2, A3
15. Transparency (Code)	3,00	3,33	Almost but not fully implemented	2	A1, A2, A3,
16. Judging merit (Code)	3,68	3,60	Almost but not fully implemented	3	A1, A2, A3
17. Variations in the chronological order of CVs (Code)	2,68	2,66	Almost but not fully implemented	2	A1, A2, A3
18. Recognition of mobility experience (Code)	3,68	2,78	Fully Implemented	1	A1
19. Recognition of qualifications (Code)	3,36	2,38	Almost but not fully implemented	1	A1, A2, A3
20. Seniority (Code)	3,00	3,06	Fully implemented	1	A1



21. Postdoctoral appointments (Code)	3,00	3,06	Fully implemented	1	A1
22. Recognition of the profession	3,00	3,87	Fully implemented	1	A1
23. Research environment	2,36	3,60	Almost but not fully implemented	2	A1, A7, A15
24. Working conditions	3,00	3,60	Fully implemented	1	A1
25. Stability and permanence of employment.	1,68	3,18	Partially implemented	2	A1, A5, A10, A11
26. Funding and salaries	3,04	4,00	Fully implemented	1	A1
27. Gender balance	4,00	3,87	Fully implemented	1	A1
28. Career development	2,36	3,60	Partially implemented	5	A1, A10, A11, A15
29. Value of mobility	3,68	3,20	Fully implemented	1	A1
30. Access to career advice	2,36	2,93	Partially implemented	2	A1, A10, A11
31. Intellectual Property Rights	3,32	3,60	Almost but not fully implemented	4	A1, A5, A8, A15
32. Co-authorship	3,68	3,60	Fully implemented	1	A1
33. Teaching	3,50	3,06	Fully implemented	1	A1
34. Complains/ appeals	3,00	3,33	Almost but not fully implemented	2	A1, A5, A15
35. Participation in decision-making bodies	4,00	3,60	Fully implemented	1	A1
36. Relation with supervisors	4,00	3,20	Almost but not fully implemented	1	A1, A12
37. Supervision and managerial duties	3,68	3,60	Fully implemented	1	A1
38. Continuing Professional Development	4,00	3,46	Fully implemented	1	A1
39. Access to research training and continuous development	3,36	3,33	Almost but not fully implemented	4	A1, A13, A14, A15
40. Supervision	4,00	3,60	Fully implemented	1	A1



4.3 Actions addressing the implementation of OTM-R principles

Refine the UCM's Selection and Recruitment procedure based upon OTM-R criteria.

The main action that will be implemented to address the OTM-R principles will be "Refine the UCM's Selection and Recruitment Procedure based upon OTM-R criteria", which will include the C&C principles and:

1. Reviewing the processes of selection and recruitment of researchers.
2. Follow up of the implementation for the progressive adaptation to the OTM-R system.
3. Development of procedures and protocols for the implementation of the OTM-R system in the recruitment of researchers with contracts, focusing on R1 and R2 researches at this phase ("UCM Pre PhD Contracts" and "Researchers founded by external projects").
4. Create guidelines and tools, to effectively apply the procedure, concerning:
 - a. a better dissemination of vacancies (i.e. besides the UCM website and the Official Bulletins when requested, Euraxess, Madri+d, other means as considered appropriate by the working group); including templates adapted to the different platforms, including English version.
 - b. a better description of vacancies, providing complementary templates following the European Research Career Framework and the OTM-R standard (bear in mind that for some positions Spanish legislation requests the publication in the official bulletin with a specific format).
 - c. to actively promote the use of the existing e-recruitment tools at UCM, which for some positions enable the application phase.
 - d. to promote the participation of external experts in the selection committees.
 - e. to promote a better assessment of merits, providing specific suggestions to apply a blended system including not only quantitative methods but qualitative criteria also, when possible and appropriate; to consider the interviews as a method for assessing merit, etc.
 - f. to ensure the gender approach is applied in selection processes (composition of panels, consideration of maternity leaves and similar situations, avoid unconscious bias).
 - g. to improve the communication with applicants fostering individual communications complementing the public information available, concerning specially acknowledgement of reception of applications and feedback concerning final evaluation results for those attaining last phases.
 - h. etc.
5. Specific training actions will be provided, if necessary, to the administrative staff and researchers involved in recruiting processes based on the implementation of the OTM-R system.
6. Procedures, guidelines and tools will be available at the UCM intranet, for all staff involved in selection procedures. Quick facts document will be available at the UCM website providing a general overview of the different selection processes at UCM.

The action "Refine the UCM's Selection and Recruitment Procedure based upon OTM-R criteria" will set clear and explicit rules and procedures for the recruitment of researcher positions, covering all phases of the process for predoctoral researchers and researchers hired within research projects, and providing guidelines on different part of the phases of the process for other positions. We will also consider the European Framework for Research Careers to identify the career profiles for researchers (R1, R2, R3 and R4). These new approaches will develop a key role in the development of the OTM-R policy.

The new procedures will be defined and implemented with the help of one of the Implementation Working Groups.



- Providing clear and transparent information on the whole selection process,
- Posting a clear and concise job advertisement with international links to detailed information,
- Ensuring that the levels of qualifications and competencies required are in line with the needs of the position,
- Considering the inclusion of explicit pro-active elements for underrepresented groups,
- Keeping the administrative burden for the candidate to a minimum, and
- Reviewing, where appropriate, the institutional policy on languages.

Awareness, training and dissemination of the OTM-R principles and procedures.

The second group of actions implemented will be those related to awareness, training and dissemination of the OTM-R principles to the staff responsible of the recruiting process, both researchers and administrative staff. In the case that further training is demanded, seminars will be addressed to principal investigators and other members of the selection committees. The need to promote specific training in recruiting, specially for interviews, will be evaluated. A special OTM-R seminar will be organised by the Implementation Working Team addressed to all the UCM's staff interested in this process.

Continuous internal monitoring and follow-up.

The third main action will be the continuous internal audit and follow-up of the recruitment processes, assuring that all the staff implied in recruiting processes, from selection to recruiting, integrate the OTM-R good practices in each selection and recruiting process.

The Vice-Rector for Academic Policy and Teaching Staff will check and internally audit the whole recruitment process, to be administered by the designated staff, and will also have a periodical, external review by an independent observer (e.g. a national expert in HRS4R). To monitor and assess the extent to which the OTM-R system is being implemented, the UCM will also adopt standards and reporting templates for internal reporting of all phases of a recruitment process.

The UCM does not have a recruitment strategy to implement the principles of Open, Transparent and Merit-Based Recruitment, therefore no web link is available.

5. IMPLEMENTATION

5.1. Implementation teams

The design of this plan has enabled the development of a model of governance, of coordination mechanisms and monitoring tools that will accelerate the adoption of new policies and practices of human resources management in research that will enable the UCM to be in line with its European references.

For the above reasons, and regardless of the duration of the evaluation process to obtain the seal, the implementation of the plan will begin in the Q3 2018.

The implementation process will be performed through three different levels of responsibility.

A) Implementation Working Group (IWG). Composed of the Vice Rectors, some members of the Working Group (see annex I). It will invite other research and administrative staff to create specific working teams. Its main goal will be to boost the institutional impulse for the implementation of the 15 defined actions. Moreover, it will provide guidance, and also will approve the design of the actions. It **will be the maximum office, will oversee the implementation process, will inform the UCM Council on a regular basis** and will approve budgets and new regulations, if needed.

B) Specific Working Teams (SWT). It will be set up for the main topics: “OTM-R”, “Ethics”, “Pre & Post Doc”, “Teaching & Recruiting”, “Tech Transfer”, “Various”, and in addition two additional support Working Teams created for assuring the implementation: “Communication” and “Quality”, (see annex I). Each team will be made up of 3-5 individuals: i) lead by one vice rector or a person in whom he/she can delegate, and people comprising: ii) the people in charge for each topics, iii) representatives of the different specific areas and services responsible for human resources where appropriate, iv) R1 to R4 researchers, etc. These different backgrounds will stimulate a productive debate with multiple perspectives of the same problem **to work on each of the deliverables and road maps correspondent with the actions**. The SWT, will be coordinated and supported methodologically by the technical secretariat.

C) Technical Secretariat (TS). It will coordinate all the implementation process, connecting the SWT with the IWG. Will be in charge of reporting to the Implementation Working Group and will **give support to the SWTs for the preparation of deliverables**. It will also be responsible for a dynamic workflow articulated along the plan: a cloud tool of information access, regular meetings, ad-hoc subcommittees with key people for specific matters depending on the evolution of the process, quality control and international benchmark. It will **coordinate the deployment of the HRS4R Action Plan**, control quality of deliverables, follow up on indicators and elaborate reports for the internal and external evaluation. Additionally, it will evolve, in a coordinated fashion, the communication plan, and the continuous evaluation process. This TS will be driven by Marta Arregui García-Miguel and, potentially, will recruit technical profiles.

5.2. Research community and main stakeholders in the implementation process

The research community **(R1-R4) will be part of the SWTs**. In a first instance, researchers that have participated in the discussions in the Gap Analysis and Action Plan working teams will be invited to join the SWT, but it will be opened for the whole academic community. They will be involved both in the design of the actions and in the test of pilot deployment and the periodical surveys.

5.3. Ensure the implementation of the action plan

The commitment of the Implementation Working Group, includes a budgetary allocation, aimed at hiring specialized personnel for the Technical Secretariat to provide methodological support in the design and implementation of the actions.

The previously detailed indicators will be included in the Institution's scorecard, and will be verified quarterly to find evidence of any alignment with the HRS4R of our organisational policies.

A Communication Plan will be designed with the objective of raising awareness in the university community about the C & C and OTM-R criteria and also to report on progress in implementation. The communication plan will include updating of the web contents, creation of content for the UCM Channel (www.ucm.es/directo), regular communications, etc.

5.4. Alignment of the HRS4R with organisational policies

The strategic framework for the implementation of the HR Action Plan is the UCM's Research Strategic Plan. An additional chapter or actualisation of the current strategic plan, will be performed to include the deployment of the actions defined at the action plan. The IWG shall be responsible for verifying that UCM policies on different areas are coherent with the HRS4R and the actions developed within this Action Plan at the institution.

The UCM recognises that one of the key success factors is the recruitment of talent, and the UCM did not have a system for managing human resources that would allow it to face future challenges sufficiently adapted to the C&C. However, the university emphasizes the need to devise a strategy that will allow the incorporation of new approaches for the organisation, recruitment and promotion of its staff. This is the opportunity to advance in the definition of a new model for managing human resources, a model that will lead the UCM to attain a position at the same level as other internationally-renowned universities.

5.5. Monitoring the progress

Monitoring and assessment will be crucial, together with the preparation of the internal and external assessment. The monitoring and the follow-up of the plan will be continuous, being one of the main functions of the Technical Secretariat. In addition, the following specific mechanisms will be provided:

1. Creating a scorecard based on the indicators proposed in the plan.
2. Reporting to the IWG on quarterly basis.
3. Internal audit performed by the Vice chancellor for Quality.

5.6. Internal and external review

The internal evaluation will be performed by the IWG with the support of the Technical Secretariat, by i) the revision of the advance of the Project after the compromises reflected in the Action Plan; ii) the revision of the indicator progress reports; iii) the reports of activities; iv) the fulfilment of road maps for each action and the reports of the internal audit. With this data, a progress report will be elaborated 12 months after the activity was initiated and reported to the IWG. A final report will be elaborated after 24 months, as it has been defined in the new procedure. For this final report, templates available in EURAXESS will be used.



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ANNEX



ANNEX 1: COMPOSITION OF THE IMPLEMENTATION TEAMS

A. Members of the **Implementation Working Group**

- Vice-Rector for Knowledge Transfer and Entrepreneurship (Chair)
- Vice-Rector for Science Policy, Research and PhD Degrees
- Vice Manager of research and academic policies.
- Vice-Rector for Quality
- Vice-Rector for Information Technologies
- Rector's Delegate for Lifelong Learning programmes, Internships and Employability
- Marta Arregui García-Miguel

B. Functions and leaders of the **Specific Working Teams**

1. “SWT_OTM-R”

- Function: Develop actions related to OTMR (A2)
- Leader Vice manager of research and academic policies.

2. “SWT_Ethics”

- Function: Develop actions related to Ethics (A4)
- Leader To be defined

3. “SWT_Pre & Post Doc”

- Function: Develop actions related to pre and post Docs (A10, A11, A13, A14)
- Leader Rector's Delegate for Lifelong Learning programmes, Internships and Employability and/or Director of the PhD School.

4. “SWT_Training & Recruiting”

- Function: Develop actions related to Training and Recruiting (A12)
- Leader Rector's Delegate for Lifelong Learning programmes, Internships and Employability

5. “SWT_Research & Tech Transfer”

- Function: Develop actions related to Good practices, laboratories and IP and Tech transfer, and Welcome Pack (A6, A7, A8, A15)
- Leader Director of the Knowledge Transfer Office.

6. “SWT_Others/Various”

- Function: Develop actions related to information security, data protection and Open Access (A9)
- Leader Vice-Rector for Information Technologies, or person on him shall delegate

7. “SWT_Communication” (A1, A5)

- Function: Design and deploy the communication plan of the HRA in coordination with the TS of the HRA
- Leader: Pascual Sicilia Martín, Communication manager, institutional communication of the UCM.

8. “SWT Quality” (A3)

- Function assure the quality in the implementation of the HRA's actions.
- Leader: Dr. María Castro Morera, Vice-Rector for Quality

C. **Technical Secretariat**

- Function: create the Working Teams, plan, organize and give methodological and technical support to these working groups. Review the suitability of the implementation proposals. Present the implementation proposals to the IWG for approval and implementation. Report to the IWG the progress of the implementation of the HRA actions. Offer support in the self-evaluation and external evaluations.
 - Marta Arregui García-Miguel Delegate for the HRA



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