



# OU-I 2017

REPORT

University-Business  
Observatory

EXECUTIVE  
SUMMARY

## INTRODUCTION

*Well into its third year of operation, the University-Business Observatory of the Fondazione CRUI seeks to promote partnerships between the academic and the business worlds and foster mechanisms enabling cooperation among the labour world, research and young people.*

*In pursuing this objective, the Observatory relies on the support of academicians as well as experts and representatives of institutions and businesses that care about the dialogue between the Universities and Businesses. In order to reach its objective, the Observatory has set up five working groups:*

- *Working Group 1 – Apprenticeship, Advanced Education and Research  
Coordinator: Prof. Claudia Faleri (University of Siena)*
- *Working Group 2 – Industrial PhD  
Coordinator: Prof. Luca Beverina (University of Milan-Bicocca)*
- *Working Group 3 – Job-oriented Bachelor Programs  
Coordinator: Prof. Vincenzo Zara (University of Salento)*
- *Working Group 4 – Cross-sector skills  
Coordinators: Prof. Livia De Giovanni (LUISS University), Dr. Ida Sirolli (TIM S.p.A.), Prof. Claudio Melacarne (University of Siena), Eng. Franco Patini (Confindustria Digitale)*
- *Working Group 5 – Life and Health Sciences  
Coordinators: Dr. Maurizio Agostini (Farmindustria) Prof. Gianni Sava (Italian Pharmacology Society)*

*The 2017 Report is the result of a joint effort by the five Working Groups, the Steering Committee and the Group of Experts.*

*The publication of the annual report is a significant moment in the growth of the University-Business Observatory of the Fondazione CRUI. During the first two years, the Working Groups focused on analysing the scenarios, then they selected four themes deemed to be of topical importance for a more thorough study. Subsequently it was decided to take a vertical approach and examine specific issues in each production sector.*

*In 2017, thanks to the input of Farmindustria and of the Italian Pharmacology Society, the Working Group on the pharmaceutical sector and life sciences was set up. In particular, this Group deals with the issues related to clinical research and clinical trial.*

*In response to the growing demand for 'sectoral' working groups, it has been decided to establish additional groups that are to focus on the specific issues of a production sector. In this framework procedures have been started to set up the sixth Working Group on the Agrifood sector.*

*Since training and technological-organizational innovation in agriculture and in the agrifood sector are taking on an increasingly important role with regard to the economic and social development of the Country, the Observatory has decided to set up the Working Group on "Sustainable Agrifood Systems" that will take initiatives designed to promote an ever-closer cooperation among universities, businesses and innovators of the agrifood system.*

*In order to emphasize the studies and thematic focus of the Working Groups, a series of publications called Quaderni dell'Osservatorio (Papers of the Observatory) was launched in 2017. In particular, on the occasion of the Thematic Workshop on Cross-sector Skills, that was held on 16 May at the Fondazione CRUI, Quaderno no 1 was presented titled "Cross-sector Skills for Higher Education" which is available on line on the web site of the Observatory ([www.universitaimprese.it](http://www.universitaimprese.it)).*

*Furthermore, in responding to the need to be present abroad and to showcase the results of the activities of the Observatory, the Coordinators of the Working Groups on Apprenticeship and Cross-Sector Skills took part in the 2017 PA Forum, held from 24 to 25 May in Rome and in the "Job&Orienta" event held in Verona on 1 December.*

*In recent years, the Observatory has been working actively in cooperation with institutions and businesses to create a profitable dialogue and to join forces in seeking to achieve common goals.*

*Special thanks go to the Steering Committee, to the members of the Group of Experts and of the Working Groups, to all those who confirmed the support they had given last year and to those who joined us this year, because they have enriched the Observatory with their competences and ideas.*

*We are especially grateful to the Director of the Fondazione CRUI, Emanuela Stefani, and to her co-workers who are actively engaged in the activities of the Observatory. In particular, for the contribution to the drafting of the Report, we thank Marina Cavallini, Natalia Paganelli, Francesca Trovarelli, Massimo Carfagna and Giovanni Lembo.*

**Professor Gaetano Manfredi**  
President CRUI

**Professor Angelo Riccaboni**  
Coordinator of the  
University-Business Observatory  
of the Fondazione CRUI

# EXECUTIVE SUMMARY

The 2017 Report, which is based on the contents that emerged from the analyses of the Working Groups, on the suggestions provided by the Group of Experts and the considerations of the Steering Committee, continues last year's analyses and monitoring and focuses on the following themes:

- 1 Apprenticeship in Advanced Education and Research
- 2 Industrial PhD
- 3 Job-oriented Bachelor Programs
- 4 Digital skills
- 5 Research and clinical trials

This year, for each of these themes, after analysing the rules and

regulations, it was decided to opt for the study of the possible instruments useful for gathering best practices and for working out operational and behavioural models. The way the subjects are dealt with – presented in chapters 1, 2, 3, 4 and 5 – focuses on paying greater attention to the concreteness and implementation of tangible actions that can be put at the service of teachers, students and individuals outside of the academic world.

Some chapters of the Report also propose some concrete actions which can be summarized as follows.

## PROPOSALS OF THE U-B OBSERVATORY

- Creation of a Network for the promotion of Apprenticeship in Advanced Education and Research, an occasion for creating an online community that funnels experiences into a curriculum and shares concrete solutions (Chapter 1).
- Preparation of a Handbook for Universities and Businesses that describes the characteristics and advantages of an industrial PhD, Guidelines for drawing up agreements between Universities and Businesses, and FAQs proposed by businesses/external bodies to facilitate the process for activating industrial PhDs (Chapter 2).
- Implementation of a process for monitoring and analysing the Job-oriented Bachelor Programs to be implemented soon in the Universities to promote quality and the sharing of experiences.
- Definition of a reference model for digital skills both for IT specialists and for non-IT workers to facilitate the spreading of a digital culture (Chapter 4).
- Promotion of a web platform to facilitate direct contact between public research and pharmaceutical industries, and the introduction of a university teaching module to encourage the study of clinical research and spread knowledge about clinical trials (Chapter 5).

The information presented in the following boxes summarize the results obtained from the analyses of the Working Groups.

## APPRENTICESHIP IN ADVANCED EDUCATION AND RESEARCH

### THE MAIN FINDINGS

- There are still **bureaucratic and administrative as well as management and relational difficulties** in the universities with regard to the use of apprenticeship contracts.
- There are still criticalities due to both misinformation about the contractual figure of apprenticeship in advanced education and research, and **fragmentation of the regulatory framework**.

### THE MAIN ISSUES THAT EMERGED

- Universities need to **share best practices** concerning the use of apprenticeship contracts in advanced education and research.
- Need to find an **instrument to encourage cooperation among all the bodies involved** in order to develop a functional and structural dialogue.

## INDUSTRIAL PHDS

### THE MAIN FINDINGS

- In Italy there is a **large number of companies of various sizes that could be involved** in activating industrial PhDs.
- Industrial doctorates **qualify as innovative PhDs and hence are eligible for a series of ad hoc financial contributions**, such as, for instance, the NOPs (National Operational Programs).

### THE MAIN ISSUES THAT EMERGED

- Need to **facilitate the implementation of an industrial PhD by providing operational indications** on the procedure to be initiated by businesses and by the universities.
- Lack of timely and adequately structured **information on the regulatory aspects and on the advantages** of establishing an industrial PhD for **Universities and Businesses**.

## JOB-ORIENTED BACHELOR PROGRAMS

### THE MAIN FINDINGS

- In Italy **the percentage of university graduates is still low and, especially of graduates in technical and scientific subjects**, whose professional profiles and specific skills are in great demand in the labour world.
- Job-oriented Bachelor Programs are a concrete **opportunity** for the university system in which it could invest to **create new jobs**.

### THE MAIN ISSUES THAT EMERGED

- Need to **create the conditions for the birth and development of new Job-oriented Bachelor Programs**, keeping alive the dialogue and cooperation with the upper-secondary Technical Institutes.

- Need to monitor the experimental phase being implemented by the Universities in order to contribute to improving these new educational paths.

## CROSS-SECTOR SKILLS

### THE MAIN FINDINGS

- The economic and industrial development of a Country is based mostly on its ability to introduce the new digital technologies and spread the digital culture.
- At the European level, strong emphasis is placed on the importance of digital skills as a core competence for life-long learning.
- In differing degrees and with different specificities, digital skills are required in all forms of employment.

### THE MAIN ISSUES THAT EMERGED

- Need for students to have basic digital skills accompanied by a digital culture, taken as broad awareness of what digital innovation represents.
- Need to form digital skills that enable the individual to contextualize, so as to make the most of the range of digital instruments in each working context.
- Need to design university curricula in this area, by introducing a model for recognizing digital skills not only for IT specialists but also for non-IT workers.

## LIFE AND HEALTH SCIENCES

### THE MAIN FINDINGS

- Strong impulse is given by the European Commission to research and development in the pharmaceutical sector through new rules that support Europe's competitiveness in conducting clinical research.
- In the pharmaceutical sector, as in others, research is becoming more and more multidisciplinary and technological transfer often arises from public-private cooperation (open innovation).
- Little attention is paid in university training to the issues concerning clinical research, in particular to the regulations that govern the development of a pharmaceutical product, the carrying out of clinical trials and pharmacovigilance.

### THE MAIN ISSUES THAT EMERGED

- Need for structural and functional reorganization of the clinical research system in Italy in view of the application in 2019 of Regulation EU No 536/2014.
- Need to foster technological transfer and promote points of direct contact between public research and pharmaceutical companies (Innovation Flow).
- Need to fill a training void in the university system in the disciplines related to life sciences as regards research and clinical experimentation.

On the basis of these findings, the future activities that the Observatory will be promoting are as follows:

## FUTURE ACTIVITIES OF THE U-B OBSERVATORY

- Develop the activities of the University-Business Observatory by promoting the creation of “sectoral” Working Groups, to deepen the issues related to specific production sectors.
- Consolidate and present the Observatory’s results obtained during these three years of activity (made possible thanks also to the growing participation of academicians, representatives of the institutions and companies) to the outside world, through meetings held outside of the university and of CRUI so as to widely disseminate the 2017 Report and more in general make known the activities of the Observatory.
- Work out, in coming years, a new model of relationship with the outside world, gathering for each Working Group information and/or data that may attract interest and be useful for communication and widespread dissemination.
- Create an intranet system for all the Working Groups so that the Observatory community may be kept active, and gather on the web site, managed by the Fondazione CRUI, materials and documents as well as information about planned events.
- Ask the main institutional players to give greater visibility to the activities planned by the Observatory by inviting, for instance, the Ministry for Education, Universities and Research (MIUR) to host on its web site a link to the web platform of the Observatory and hence create a Network among Universities, institutional players and social parties aimed at supporting the implementation of an apprenticeship in advanced education and research.

# STRUCTURE OF THE OBSERVATORY

**Steering Committee:** headed by the Coordinator of the Observatory, the Steering Committee is the body that sets the Observatory's policy and plans its activities. Its members are the representatives of institutions and businesses that are particularly interested in the dialogue between the Universities and the Business world.

**Prof. Angelo Riccaboni**  
Observatory Coordinator

**Prof. Giorgio Alleva**  
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ISTAT – National Institutes of Statistics

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**Prof. Marco Simoni**

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**Group of Experts:** Consulting body of the Steering Committee, the Group of Experts has the task of providing opinions and contributions on the different areas of competence of the Observatory.

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**Prof. Vincenzo Zara**

Rector of the University of Salento  
Coordinator of the Didactic Committee of CRUI

**Working Groups:** consisting of scholars and business operators, the Working Groups have the task of implementing the activities identified by the Steering Committee through ad hoc analyses and in-depth study. The five Working Groups in 2017 included the following members.

**1 “Apprenticeship”, coordinated by Prof. Claudia Faleri (University of Siena).**

Abbraccio Mariapia (University of Milan), Aime Silvio (University of Turin), Alfarano Laura (University of Pisa), Arnone Andrea (University of Florence), Balsamo Alfonso (Confindustria), Berni Laura (University of Siena), Bonanno Assunta (University of Calabria), Brambilla Marina (University of Milan), Bucceroni Paola (University of Macerata), Cattarin Arianna (“Ca’ Foscari” University of Venice), Cumbo Tommaso (Anpal servizi SpA, in-house agency of ANPAL-National Agency for Active Labour Policies), D’Agostino Sandra (INAPP, National Institute for the Analysis of Public Policies), dalla Massara Tommaso (University of Verona), De Bortoli Graziella (University of Padua), Faleri Claudia (University of Siena), Ferrante Francesco (University of Cassino and of Southern Lazio), Ferrari Vittorio (University of Brescia), Forno Silvia (University of Turin), Giambalvo Ornella (University of Palermo), Glielmo Luigi (University of Sannio), Grana Federica (University of Brescia), Luciano Paola (“Ca’ Foscari” University of Venice), Magliocchi Antonella (University of Pisa), Marrani Giuseppe (University for Foreigners of Siena), Massai Rossano (University of Pisa), Migliozi Alfonsina (University of Sannio), Nistri Elena (University of Florence), Parenti Simonetta (Anpal servizi SpA, in-house agency of ANPAL-National Agency for Active Labour Policies), Pasquali Oscar (MIUR - Ministry of Education, Universities and Research), Persico Stefania (University “Suor Orsola Benincasa” of Naples), Perulli Adalberto (“Ca’ Foscari” University of Venice), Pizzi Marina (University of Brescia), Poesio Pietro (University of Brescia), Reina Rocco (“Magna Graecia” University of Catanzaro), Rizzoli Sonia (University of Parma), Rosina Barbara (University of Milan), Rota Gilda (University of Padua), Setola Roberto (University “Campus Bio-Medico” of Rome), Sigala Sandra (University of Brescia), Silli Patrizia (University of Macerata), Tanucci Giancarlo (“Aldo Moro” University of Bari), Torregiani Elisabetta (University of Camerino), Trenta Gisella (University of Pisa), Trovarelli Francesca (University of Siena), Ubaldi Federica (University of Camerino), Vallozza Maddalena (University of Tuscia), Zanato Maria (University of Padua).

**2 “Industrial PhD”, coordinated by Prof. Luca Beverina (University of Milan-Bicocca).**

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4 "Cross-sector Skills", coordinated by Prof. Livia De Giovanni (LUISS University), Dr. Ida Sirolli (TIM S.p.A.), Prof. Claudio Melacarne (University of Siena).  
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5 "Life and Health Sciences", coordinated by Dr. Maurizio Agostini (Farmindustria), Prof. Gianni Sava (SIF-Italian Pharmacology Society)

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