

**SINTESI VALUTAZIONE ISTITUTI 2014**  
**Dipartimento Scienze Chimiche e Tecnologie dei Materiali (DSCCTM)**

Struttura	Voto Panel 2014	Giudizio	Rank 2014	Rank 2009
Chimica dei Composti Organo-Metallici	92	excellent	1	1
Studio dei Materiali Nanostrutturati	89	very good	2	7
Sintesi Organica e Fotoreattività	88	very good	3	2
Polimeri, Compositi e Biomateriali	86	very good	4	4
Scienza e Tecnologia dei Materiali Ceramici	84	very good	5	9
Processi Chimico-Fisici	83	very good	6	13
Scienze e Tecnologie Molecolari	83	very good	6	2
Tecnologia delle Membrane	83	very good	6	12
Chimica e Riconoscimento Molecolare	81	very good	9	5
Energetica e le Interfasi	81	very good	9	9
Chimica Biomolecolare	79	good	11	8
Cristallografia	79	good	11	14
Studio delle Macromolecole	77	good	13	5
Metodologie Chimiche	75	good	14	9
<b>MEDIA PANEL</b>	<b>82,86</b>			

\* Per IPCC il riferimento è ICTP

**Istituto:** Chimica dei Composti Organo-Metallici - (ICCOM)

<b>Voto Panel</b>	92
<b>Giudizio</b>	excellent

**Panel Recommendations**

The increment of ICCOM's staff members with IPCF researchers has certainly added innovative and complementary fields (Advanced Spectroscopy and Analytical Techniques) to the historic core of Organometallic and Organic Chemistry researches of the Institute. The Final Summary of the previous evaluation ended with the sentence: "The Institute is optimally performing with excellence its mission with great perspectives in fuel cells". In the period 2011-2014, these studies have led to patents, thus confirming the ability of the Institute to convert curiosity driven researches into technological applications. Notwithstanding these improved results, the need remains to focus on priority projects and to strengthen interactions among the three units. Efforts in this direction may lead to an increase of the research budget through competitive grants. No particular recommendation from this Panel seems to be required. However, in order to preserve the excellence of this Institute, it is necessary to increase the level of the institutional funding as underlined in the comments to the SWOT analysis.

**Istituto:** Studio dei Materiali Nanostrutturati - (ISMN)

<b>Voto Panel</b>	89
<b>Giudizio</b>	very good

#### **Panel Recommendations**

In the context of an excellent performance, it is recommended that the ISMN will analyze more closely the causes leading to the gradual decline of funding. This is likely to be due to the extremely competitive environment resulting from national and European cuts to research funding. For these reasons, ISMN should devise a strategy able to capitalize more on the private funding and industrial collaborations thus far generated. In particular, the potential in providing service and consultancy does not appear to be significantly valued and exploited.

**Istituto:** Sintesi Organica e Fotorattività - (ISOF)

<b>Voto Panel</b>	88
<b>Giudizio</b>	very good

#### **Panel Recommendations**

The last statement of the 2009 final summary "the ISOF is optimally performing with great perspective in molecular design and advanced materials" is still actual and may be transferred to this evaluation. In addition, research projects that were promising at the time, especially those related to innovative materials, have been successfully conducted with production of many excellent publications and funded projects. The documented absence of effective communications between the Director and the group leaders certainly represents a weakness of the Institute. The recommendation is for avoiding such situations in the future, so to not jeopardize ISOF's high standard performances. Efforts in this direction may also help a more successful competition for private and public funding.

**Istituto:** Polimeri, Compositi e Biomateriali - (IPCB)

Voto Panel	86
Giudizio	very good

#### **Panel Recommendations**

Overall, this Institute appears to be a very strong unit and a possible reference point within the CNR. However, the value of the Institute for the whole department/organisation should be articulated and thought particularly in relation to the dissemination to the public. The report gives factual evidences in a very diligent manner, but the strategy of the management team and its inspirational character does not emerge. The strategy should take into consideration that the clearly demonstrated reputation of some members of the staff could become of world-class status by encouraging and coordinating paper submissions that supports the Institute principal research lines as well as the outputs of the most promising early career researchers.

**Istituto:** Scienza e Tecnologia dei Materiali Ceramici - (ISTEC)

Voto Panel	84
Giudizio	very good

#### **Panel Recommendations**

It is recommended to tune the research priorities with the number of permanent researchers working in the Institute. The number of research activities does not seem proportionate to the available human resources and in some cases they partially overlap with research on going in other CNR Institutes. It is advised that rather than focussing on structural ceramics, a niche activity, core projects should be pursued in the field of environment, energy, bioceramics and construction.

Istituto: Processi Chimico-Fisici - (IPCF)

Voto Panel	83
Giudizio	very good

#### Panel Recommendations

Some changes of emphasis in the pursued research lines have occurred when the subsidiary research locations in Rome and Cosenza have been suppressed. The list of 20 selected papers does not give a full account of this, although the Institute's objectives appear to be better focused on the IPCF mission. Differences in fundraising opportunities among the three IPCF locations are apparent in comparing Pisa vs. Messina and Bari. The latter can profit from national and regional programs (e.g., PON and POR) to a much greater extent, due to the actually existing funding availability from National MIUR programs. Other sources do not compensate for difficulties that may arise in Pisa, which should be better integrated inside the existing activities on which other IPCF locations are working, since it can offer horizontal scientific expertise as fundamental approach to applied activities.

Istituto: Scienze e Tecnologie Molecolari - (ISTM)

Voto Panel	83
Giudizio	very good

#### Panel Recommendations

The Institute is fruitfully performing activities pertinent to the stated mission. In particular, the scientific productivity and the technology transfer are quite satisfactory and well comparable with those reported in the previous evaluation. New fields of research such as those related to innovative catalysts for green chemistry, bio-refinery and hydrogen productions are actually under investigations with great potential. Notwithstanding the improved results obtained through the Institute reorganization, the need remains to focus on priority projects and to strengthen interactions among the units. Efforts in this direction may help a more successful competition for increasing the financial supports.

**Istituto:** Tecnologia delle Membrane - (ITM)

Voto Panel	83
Giudizio	very good

#### **Panel Recommendations**

No major issues to be addressed are evidenced by the current evaluation exercise; nevertheless, a more focussed attention to high level publication policy for the scientific issues characterizing the Institute activities would have been resulted in a world class Institute according to the adopted evaluation criteria. Thus the panel suggest for future activities an increasing attention to highly worldwide-recognised international journal for fundamental aspects of performed applied researches

**Istituto:** Chimica e Riconoscimento Molecolare - (ICRM)

Voto Panel	81
Giudizio	very good

#### **Panel Recommendations**

No particular recommendation from this Panel seems to be required. All the activities are consistent with the Institute mission; the productivity index and the quality of the publications are in line with that of the previous evaluation. Most importantly, the number of patent filed is equally distributed among the researchers of all the three branches, demonstrating a high performance in technology transfer of ICRM staff members. However, in order to maintain and further improve the positive results obtained, it seems necessary to increase the turnover and to invest in new, up to date, scientific instruments.

Istituto: Energetica e le Interfasi - (ENI)

Voto Panel	81
Giudizio	very good

#### Panel Recommendations

While observing different outcomes and levels of achievement across the branches of the Institute, a better coordination among them has been achieved during the reporting period. ENI has a strong vocation for research of significant societal impact; the effort to link this positive characteristic with fundamental research carried out should be maintained and strengthened, thus allowing each territorial section to highlight its complementarity and contribution to the whole coordinated system. This can avoid duplication and improve cross-cutting collaborations also linked to the socio-economical needs of the various geographical areas covered. Padova must reaffirm and strengthen its role of coordinator of the Institute activities.

Istituto: Chimica Biomolecolare - (ICB)

Voto Panel	79
Giudizio	good

#### Panel Recommendations

This Panel recommends that the new Director's efforts are oriented towards the confluence of the large expertise and know-how of single laboratories and research groups towards main targets focusing on the most timely and advanced aspects of life science. The four sections of the Institute are widespread at the four corners of Italy, and this makes contacts quite difficult and it is probably one of the reasons of the large numbers of research lines present in the Institute, which in most cases are lines of a single Section. The geographical distance among branches is reported as the point number 1 of the weaknesses in the SWOT analysis. It must also be noticed that one of the Sections, the Padua branch, is the smallest (only 5 researchers over a total of 115) and its contribution to the Institute activities appears quite marginal (see the final remark on the Attractiveness analysis, point A2). It is worth wondering if the 5 researchers and technicians of Padua (which are located in the Department of Chemistry of the University) should join the local CNR Institute of Chemistry (presently called IENI).

Istituto: Cristallografia - (IC)

Voto Panel	79
Giudizio	good

#### Panel Recommendations

In the last few years, the Institute has significantly moved its research from basic to more applied science, in agreement with the indications of CNR. The IC gathers high quality instrumentations in the field of X-ray diffraction, from laboratory instruments to a synchrotron outstation and they are made available to the scientific community. IC could represent a reference point for projects focusing on structural studies performed by other Institutes outside the chemical area, in particular it can be a valuable provider of facility and expertise for life sciences laboratories. The name of the Institute (Institute of Crystallography) refers to a specific technique, at variance with the majority of the other Institutes of CNR, whose names are more applications-oriented. In this context all the crystallographic research carried out inside CNR could be merged into IC (and eventually few groups working in topics not related with diffraction or structural characterization of matter could migrate to more appropriate Institutes).

Istituto: Studio delle Macromolecole - (ISMAC)

Voto Panel	77
Giudizio	good

#### Panel Recommendations

Differences in the scientific production of the research groups active within the Institute, as evidenced in the Institute descriptive reports suggest a better tuning of groups composition, especially in view of new young incoming researchers. A balanced group composition is expected in order to deliver high-level scientific activities and effective knowledge transfer in the long term.

Istituto: Metodologie Chimiche - (IMC)

Voto Panel	75
Giudizio	good

**Panel Recommendations**

In agreement with the general mission of the Institute, IMC's research activities have been focused on public health, foodstuff and preservation of cultural heritage. However, these topics have been developed with an excessive number of research lines with the consequence of general reductions of the Institute outputs. In fact, during the latest few years, the Institute has slightly worsened its performances in funding and productivity. This Panel, considering the undisputed scientific value of its staff, recommends revising the Institute scientific projects in agreement with the new Director's programs outlined in the comments to the SWOT analysis.