

## Curriculum Vitae del Prof. Marzio Rosi

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Il Prof. Marzio Rosi, nato a Città di Castello il 1° agosto 1957, si è laureato in chimica con la votazione di 110/110 e lode il 23 luglio 1981 presso l'Università degli Studi di Perugia. Ha conseguito il titolo di dottore di ricerca in scienze chimiche nel 1987 e quindi ha trascorso un periodo di un anno presso il NASA Ames Research Center di Moffett Field, California (USA) con una borsa del CNR. Nel 1989 è diventato ricercatore universitario presso la Facoltà di Scienze Matematiche, Fisiche e Naturali dell'Università di Perugia e quindi, nel 1992, professore associato di chimica presso la Facoltà di Ingegneria della stessa Università, dove afferisce al Dipartimento di Ingegneria Civile ed Ambientale. Nel 2001 è diventato professore ordinario per il settore scientifico-disciplinare CHIM/07 – Fondamenti chimici delle tecnologie - (già C06X - Chimica) presso la stessa Facoltà.

Nel 1992 è stato chairman del 1° CERC3 (Chairmen and Directors of European Research Council Chemistry Committees) European Young Chemists Workshop sul tema "Teoria e modellizzazione di sistemi e processi chimici". Nel 1996 con una borsa NATO Senior ha svolto ricerche presso il NASA Ames Research Center di Moffett Field, California (USA) nel campo delle nanotecnologie, per le quali ha ricevuto il premio Feynman 1997 per le nanotecnologie assegnato dal Foresight Institute di Palo Alto, California (USA).

Esperto di tecnologie informatiche, dal 15 aprile 1999 al 31 dicembre 2000 è stato direttore del Centro di Studio CNR per il Calcolo Intensivo in Scienze Molecolari (CSCISM) di Perugia, confluito

poi nell'Istituto di Scienze e Tecnologie Molecolari del CNR. È stato responsabile della sezione di Perugia di tale istituto dal 2001 al 2009, del quale è tuttora ricercatore associato. È membro del consiglio direttivo del Centro di Eccellenza dell'Università di Perugia "Tecnologie scientifiche innovative applicate alla ricerca archeologica e agli studi storico-artistici" (SMAArt Scientific Methodologies applied to Archaeology and Art). È membro del consorzio interuniversitario nazionale per la scienza e la tecnologia dei materiali (INSTM) e dell'American Chemical Society. È stato coordinatore nazionale e responsabile dell'unità di ricerca ISTM-CNR del progetto MIUR-FISR "Modellistica molecolare di sistemi di complessità crescente". È stato responsabile dell'unità di ricerca ISTM-CNR del progetto MIUR-FISR "Nanotecnologie molecolari per l'immagazzinamento e la trasmissione delle informazioni". È stato responsabile dell'unità di ricerca ISTM-CNR del progetto MIUR-Impiego del fondo speciale per lo sviluppo della ricerca di interesse strategico- "Grid Computing: tecnologie abilitanti e applicazioni per eScience". È stato responsabile dell'unità di ricerca ISTM-CNR del progetto MIUR-FIRB "Piattaforme abilitanti per griglie computazionali a elevate prestazioni orientate a organizzazioni virtuali scalabili" nell'ambito del programma strategico "Tecnologie abilitanti per la società della conoscenza ICT". È stato responsabile dell'unità di ricerca ISTM-CNR del network europeo ENACTS "European Network for Advanced Computing Technology for Science".

Il Prof. Rosi ha svolto attività di ricerca presso varie istituzioni scientifiche straniere quali il New Science Group dell'ICI di Runcorn, UK, il Science and Engineering Research Council di Daresbury, UK, le Università di Lund, di Losanna, di Berkeley e il NASA Ames Research Center di Moffett Field, California.

Il Prof. Rosi è docente di Chimica per i corsi di laurea in Ingegneria Edile e Architettura, Ingegneria Meccanica e Ingegneria Gestionale e Inquinamento Ambientale per il corso di Laurea in Ingegneria per L'Ambiente e il Territorio. È Presidente del Consiglio di Corso di Studio in Ingegneria per l'Ambiente e il Territorio dell'Università di Perugia. È membro del Collegio di Docenti di Dottorato in Scienze Chimiche dell'Università di Perugia.

L'attività scientifica, documentata da circa 200 pubblicazioni scientifiche su riviste internazionali con referee e svariate comunicazioni a congressi sia nazionali che internazionali, molte delle quali su invito, consiste nello sviluppo ed applicazione di accurati metodi quantomeccanici allo studio della struttura elettronica, delle proprietà di legame e della reattività di svariati sistemi e processi chimici, che rientrano nell'ambito della modellistica chimica. Tra essi possiamo citare sistemi importanti a fini catalitici e nel settore delle nanotecnologie e specie rilevanti per lo studio della chimica dell'atmosfera, sia terrestre che di altri pianeti, dell'astrochimica e dell'astrobiologia. In particolare possiamo ricordare:

- studio di specie sia cariche (anioni, cationi) che neutre (radicali, molecole instabili) di interesse nella chimica dell'atmosfera e in problemi connessi all'inquinamento ambientale;

- studio della struttura elettronica e delle proprietà di legame di sistemi contenenti metalli di transizione, importanti a fini catalitici e nella progettazione di nuovi materiali;
- calcolo accurato di osservabili spettroscopiche;
- modellizzazione nel campo delle nanotecnologie.

### Publicazioni scientifiche di Marzio Rosi

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