

MATTEO VIEL

Date of birth: September 5, 1975 **Place of birth:** Udine (Italy)

Nationality: Italian

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Curriculum vitae

- **1994:** High School. Diploma maturità scientifica Liceo Scientifico “G. Marinelli” - Udine (grade: 60/60).
- **1999:** Degree in Physics, Università di Padova, Italy. Thesis: A merger tree for the formation of cosmic structures . Thesis supervisors: Prof. Sabino Matarrese, Dr. Giuseppe Tormen. (grade: full mark 110/110 cum laude).
- **9/1999 - 3/2000:** Fellowship of Università di Padova for a period of six months at Max-Planck-Institut für Astrophysik (Garching, Germany).
- **11/1999 - 11/2002:** PhD position at the Physics Department of Università di Padova (Italy).
- **02/2001 - 04/2001:** Visiting period at Max-Planck-Institut für Astrophysik (Garching, Germany).
- **04/2001 - 10/2001:** EARA-Marie Curie Fellowship at Max-Planck-Institut für Astrophysik (Garching, Germany).
- **02/2002 - 07/2002:** EARA-Marie Curie Fellowship at Institute of Astronomy (Cambridge, UK)
- **11/2002 - 10/2003:** Research Associate, Institute of Astronomy (Cambridge, UK)
- **02/2003:** PhD from Università di Padova (Italy), Thesis “Numerical Models of the Intergalactic Medium”. Thesis supervisor: Prof. Sabino Matarrese.
- **10/2003 - 10/2006 :** Research Associate - PPARC (Particle Physics Astronomy Research Council) fellowship, Institute of Astronomy (Cambridge, UK)
- **11/2004 - 12/2004 :** Visiting period at KAVLI institute (Santa Barbara) for the program ‘Galaxies-Intergalactic Medium interaction’
- **10/2006 :** Researcher position at the Trieste Observatory (INAF-OATS)

Research Interests

- **Quasar absorption lines** Analysis of observed and simulated quasar spectra: Lyman- α forest and metal lines.
- **Evolution and chemical composition of the Intergalactic Medium**
Evolution of the Lyman- α forest, thermal history and metal enrichment of the Intergalactic Medium. Reionization of the universe and evolution of the Ionizing Background. Impact of galactic winds on the Intergalactic Medium. Low redshift intergalactic gas detectability. Helium reionization.
- **Cosmological parameters**
Absorption lines as a probe of fundamental physics. Recovery of cosmological parameters and properties of the dark matter density field. Effect of dark energy, warm dark matter, neutrinos on the Lyman- α forest structures.
- **Numerical simulations of structure formation** Hydro-dynamical and N-body codes. Evolution of cosmic structures in the high redshift universe. Density profiles of dark matter halos.

Publications

see <http://adlbitum.oats.inaf.it/viel/> for a full list.

Teaching experience

- Supervisor, Part III Physics “ Gravitational Astrophysics and Cosmology ” a course held by Professors Lasenby, Fabian, Rees and Hobson (Physics Department - University of Cambridge)
- Supervisor, Part III Maths “Physical Cosmology ”, a course held by Prof. Pettini and Dr. Weller (DAMTP - University of Cambridge)
- Lecturer at Università La Sapienza, Cosmology course for PhD students, 2007

Outreach

- Physorg: <http://www.physorg.com/news76328087.html>
- <http://www.fnal.gov/pub/today/archive2006/today06-09-06.html>
- ESI-TOPICS: Emerging Research Fronts Comments
<http://www.esi-topics.com/erf/2006/october06-MatteoViel.html>
- 5-6 public talks per year