

Curriculum Vitae
Dr Patrick Rynhart

Information Technology Services (ITS)
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Education

- 2004** **Doctor of Philosophy (PhD) in Mathematical Physics**
Mathematical Modelling of Granulation Processes
Massey University, Turitea Campus, New Zealand
Dissertation available online at <http://muir.massey.ac.nz/handle/10179/242>
- 2000** **Bachelor of Science in Mathematical Physics with First Class Honours**
Massey University, Turitea Campus, New Zealand
Doctoral Scholarship Awarded
- Subjects:** Relativistic Quantum Mechanics & Quantum Field Theory; Statistical Physics & Renormalisation Group; Atomic & Solid State Physics; Lie Groups & Lie Algebras; Introduction to General Relativity; Fluid Dynamics; Quantum Mechanics & Group Theory; Chemical Physics; Applied Mathematics Research Project.

Positions Held

- 2011 - current** **Systems Engineer (Infrastructure)**
Information Technology Services, Turitea Campus, Massey University, New Zealand.
- 2009 - 2011** **Team Leader (Information Technology) / Linux Systems Administrator**
School of Engineering and Advanced Technology, College of Sciences, Massey University, Turitea Campus, New Zealand
- 2006 – 2009** **Linux Systems Administrator**
School of Engineering and Advanced Technology (formerly the Institute of Information Sciences and Technology), College of Sciences, Massey University, Turitea Campus, New Zealand
- 2005 – 2006** **Postdoctoral Research Fellow in Computational Mathematics**
High Performance Computing (HPC)
Project: Monotone Algorithms for Non-Linear Singular Perturbation Problems
Institute of Fundamental Sciences, College of Sciences, Massey University, Turitea Campus, New Zealand
- 1999 – 2002** **Graduate Assistant**
Institute of Fundamental Sciences, College of Sciences, Massey University, Turitea Campus, New Zealand

Fellowships

- | Year | Details |
|-------------|---|
| 2005 | Postdoctoral Fellowship: Massey University Research Fund (MURF) |
| 2002 | Claude McCarthy Fellowship: New Zealand Vice Chancellors' Committee (NZVCC) |

Prizes and Awards

Year	Details
2002	Science and Technology Award: Royal Society of New Zealand (RSNZ)
2000 – 2003	Massey University Doctoral Scholarship
2000	Aitken Prize: New Zealand Mathematical Society (NZMS)
2000	Technology and Engineering Award: Massey University
1995	Douglas Young Memorial Prize for Dux of Napier Boys' High School; Storkey VC Prize for Excellence in Mathematics and Science; School Prefect; Hawkes' Bay Round Table Award for Service to School and Community.

Committees

Year	Details
2009 - 2011	Massey University Stream System Requirements Working Group (SRWG) Member
2009	Steering Group Member: Manufacturing Knowledge HERE (Hub for Manufacturing Education Research and Exchange), TEC funded project

Research Group Affiliations (Massey University)

Applied Dynamics Group (ADG), website <http://dynamics.massey.ac.nz/>

Contributions: Researcher contributing to numerical simulations of Applied Mathematics and Physics models

Centre for Mathematical Modelling (CMM), (now the [Centre for Mathematics in Industry \(CMI\)](#), Institute of Fundamental Sciences.

Contributions: Analytical and numerical mathematical modelling contributions.

Technical Skills (Information Technology)

- Linux System administration (Redhat Enterprise Edition Linux/CentOS and Debian/Ubuntu) utilising tools / services including Samba, Openldap, ssh, vnc, nmap, X11, NFS and NIS, rsync and unison, cron, CUPS, Apache, etc.
- System administration of Microsoft Windows (Client/Server) utilising tools including Security / Group Policy, DACLS, ipsec, psexec, Windows Firewall, Windows Update, Services, Cygwin, etc.
- Cross platform programming and development on Linux / Windows platforms C/C++ along with debugging tools (e.g. Valgrind).
- Version control systems (Subversion)
- High Performance / Parallel computing: Message Passing Interface (MPI), Sun Grid Engine (SGE).
- Web development: PHP, EWS (Exchange Web Services)
- Databases (PostgreSQL, MySQL)
- Scientific Software: Matlab (including MeX), Maple, LaTeX.
- Virtualisation: VMWare Server and ESXi
- Directory Services: OpenLDAP (Customised schema; experience with the sync replication engine "syncrepl"; debugging)
- Visual C++ (MFC)
- Samba (Domain control; Trust relationships)