CURRICULUM VITAE

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Tertiary Education   1995-99 Applied Science University, Amman, Jordan
Qualification obtained   1999   B.Sc(Hons) in Computer Science (With Distinction)

2002-06 Heriot-Watt University, Edinburgh, UK
Qualification obtained   2006   PhD "Implementing High-level Parallelism on Computational Grids"

Employment History

Nov/1998–Dec/99	Programmer/Analyst, Comcent Amman, Jordan.
Dec/1999–April/00	Database Administrator, OneWorld Software, Boston, USA.
Apr/2000–Oct/01	Programmer/Analyst, Noha-Systems, London-Edinburgh, UK.
Oct/2002–April/06	Teaching Assistance and Lab Helper, Department of Computer Science, Heriot-Watt University
April/2006–May/2008	Research Associate, School of Mathematics and Computer Science, Heriot-Watt University EU project, Symbolic Computation Infrastructure for Europe
May/2008–present	Research Associate, School of Mathematics and Computer Science, Heriot-Watt University EPSRC project, Adaptive Hardware Systems with Novel Algorithmic Design and Guaranteed Resource Bounds

Teaching

I have taught University lecture courses and have been a lab helper and tutor for 5 years during my time as a PhD student and RA at Heriot-Watt University. To date (January 2009) I have contributed to the following courses:

Advanced Databases	2002-05	MSc	Lecturing & Tutoring
Parallel and Distributed Tech.	2006-08	4th Year	Lecturing
Algorithms & Data Structures I	2002-05	2nd Year	Tutoring & Lab helper
Algorithms & Data Structures II	2002-05	2nd Year	Tutoring & Lab helper
Software Engineering II	2002-04	2nd Year	Lab Helper
Database Systems	2003-05	3rd Year	Tutoring.

Having a Computer Science degree and active research interests I am able to teach a broad range of Computer Science disciplines at postgraduate and undergraduate levels. Since 2003 I have been actively involved in undergraduate and MSc project supervision.

Research

I pursue two related research themes:
High-level Parallel, Distributed/Grid Programming – the design, implementation, and use of parallel and distributed/Grid languages, typically using a functional paradigm.
Low-level Parallel, threading Programming – the design, implementation, and use of threading technology using high-level embedded languages.

Advances in wired and wireless technology have dramatically increased the connectivity between computing resources of whcih the internet and GRID are just two examples. In contrast to classical software, such systems must not only describe computational or algorithmic properties but also the coordination of processes – i.e. how to arrange computation on a collection of resources. Such considerations pertain to process management, communication, synchronisation, and resource location. For example such systems are often open, with resources and computations joining and leaving dynamically. Current software technologies for constructing high-performance and distributed systems require explicit management of many low-level coordination aspects.

Moreover, multicore architectures are becoming increasingly common, and are projected to become still more pervasive. However, effectively utilising the tightly-coupled parallelism provided by these architectures is proving to be a significant challenge.

My strategic aim is to contribute to the development of programming languages with powerful yet high-level coordination abstractions, supported by effective implementations that enable the construction of large heterogeneous high-performance, distributed and GRID systems. Furthermore, I plan to develop and contribute to the design of a programming language that coordinates computational components using a high-level declarative parallel programming model (algorithmic skeletons) that exposes ultra-lightweight threads. The languages must have simple semantics and formalisms at an appropriate level of abstraction to facilitate reasoning about the coordination in real distributed systems – i.e. to transform, demonstrate equivalence, or analyse the coordination properties.

Publications
The appended list of publications includes 1 book chapter, 2 journal articles and 16 externally-reviewed published conference papers. Many of the conference papers are at premium Computer Science conferences including Parallel and distributed Computation, Multicore Programming, Practical Aspects of High-Level Parallel Programming and Practical Aspects of Declarative Languages.

Supervision of Postgraduate/Undergraduate Students
I am currently co-supervising two PhD students:

> A high level language implementation for non-uniform processor architecture.
> Exploiting parallelism in multi-core using functional programming languages.

Each year I co-supervise M.Sc. and undergraduate final year projects.

External Activities/Evidence of Esteem

Programme Committees and Technical Referee
I have served on 1 programme committee and 9 times as technical referee for several national and international symposia, as well as helping to organise international workshops (International *Symposia on Implementation and Application of Functional Language (IFL03)* and International *Symposium on Trends in Functional Programming (TFP03)*).

2003-08	Int. Symp. on Trends in Functional Programming	Technical Referee
2003-07	Int. Workshop on the Implementation of Functional Languages	Technical Referee
2008	IEEE Int Conference on Signal-Image Tech. & Internet	Program Committee
2007	Int Symp on Parallel and Distributed Computing	Technical Referee

Public Research Software
The development result of my PhD research, Grid-GUM, is the core infrastructure for a substantial part of 5 years 2.2 Million Euro European research project, SCIEnce (Symbolic Computation Infrastructure for Europe). Moreover, it is the core of three PhD theses at School of Mathematics and Computer Sciences of Heriot-Watt University, School of Computer Science of University of St Andrews and Computer Science Department of Western University of Timisoara (Romania)
Furthermore, the development outcomes of my research from the European research project SCIEnce, SymGrid-Par, are being used by other research institutions such as the Centre for Interdisciplinary Research in Computational Algebra (University of St Andrews) and the Research Institute for Symbolic Computation (Linz, Austria) and industrial partners in the project such as Maple-Software (Canada).

Invited Talks
I have given invited talks at many institutions:
Overseas universities: LMU Munich(Germany), Marburg (Germany), Kassel(Germany), Technische Universitt Berlin(Germany), Western University of Timisoara (Romania), Open Source Grid and Cluster meeting Oakland(USA), Yarmouk University (Jordan).
UK universities: St Andrews, Leeds, Edinburgh.
Companies: Microsoft UK Research Labs.

I, also, have been an invited lecturer at the annual International summer school in Symbolic Computation at RISC in Linz, Austria (2008 and 2009).

Referees

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