



**FPL**  
**CELEBRATING**  
**25 YEARS**

**Welcome to FPL 2015!**  
**25<sup>th</sup> International Conference on**  
**Field-programmable Logic and Applications**  
London, UK  
31 August – 4 September, 2015

**General Chairs: Peter Cheung (Imperial College London, UK)**  
**Wayne Luk (Imperial College London, UK)**

**Programme Chair: Cristina Silvano (Politecnico di Milano, IT)**

**Imperial College**  
London

**FPL** 2015  
LONDON



# The First FPL

**INTERNATIONAL WORKSHOP ON  
FIELD PROGRAMMABLE LOGIC  
AND APPLICATIONS**



University of Oxford  
4th - 6th September 1991

## Introduction

Field Programmable Logic has been available for a number of years, but the increasing power and variety of devices now available is extending its role from that of simply being a convenient way of implementing the system 'glue logic' to an increasing ability to implement mainstream system functions. The speed with which devices can be programmed makes them ideal for prototyping and for education, the reprogrammable devices are opening up sophisticated new applications and new hardware/software trade-offs. CAD is being developed for automatic compilation of advanced designs and routes to custom circuits are now available. This workshop will bring together workers from all over the world for a wide ranging discussion of all forms of field programmable logic (particularly *field programmable gate arrays*) and their applications.

In addition, the workshop will be limited to a maximum of 90 participants. Transport, meals and accommodation will all be provided in the unique setting of Christ Church College between the evening of the 3rd September and lunchtime on the 4th September 1991. The college was founded in 1571 by Queen Elizabeth I; meals in a traditional medieval hall, a perfect setting for the Conference Dinner. To create a 'relaxing atmosphere' for your stay, the workshop also includes a visit to the 'Oxford Story' - a recreation of the history of Oxford through sounds, sights and smells. Christ Church stands close to the heart of the University and to the city's central shopping district - you will find listed some of its attractions to interest an accompanying visitor. We do hope that you enjoy this workshop.



Will Moore & Wayne Luk

Attendants. FPL'91: 90

# FPL'91

## Introduction

Field Programmable Logic has been available for a number of years, but the increasing power and variety of devices now available is extending its role from that of simply being a convenient way of implementing the system 'glue logic' to an increasing ability to implement mainstream system functions. The speed with which devices can be programmed makes them ideal for prototyping and for education, the reprogrammable devices are opening up sophisticated new applications and new hardware/software trade-offs. CAD is being developed for automatic compilation of advanced designs and routes to custom circuits are now available. This workshop will bring together workers from all over the world for a wide ranging discussion of all forms of field programmable logic (particularly *field programmable gate arrays*) and their applications.

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Will Moore & Wayne Luk



# Registration

*The Standard Fee* covers student-style accommodation in Jesus College for the nights of the 3rd September to 5th September; all meals from supper on the 3rd September to lunch on the 6th September, including the Workshop Dinner on the 5th September; a copy of the preprints; a copy of the edited proceedings when published; and the visit to the "Oxford Story".

*The No Room Fee* covers lunches, daytime refreshments, Workshop Dinner; a copy of the preprints; a copy of the edited proceedings when published and the visit to the "Oxford Story".

*The Partner Fee* covers bed and breakfast at Jesus College for the nights of the 3rd to the 5th September; dinner each evening, including the Workshop Dinner on the 5th September; and the visit to the "Oxford Story". Partners will be accommodated in adjacent rooms.

	On or before July 30th	From July 31st
Standard Fee:	£375	£413
No Room Fee:	£275	£303
Partner Fee:	£125	£138

The discounted price will apply to bookings received with payment by July 30th 1991. Places will not be reserved after 23rd August unless payment has been received, except by special arrangement. Registrants outside the UK should add a further £10 to cover bank charges.

*Bank of England inflation calculator*

£275 in 1991 = £527 in 2014

Registration fee for FPL'15: £450! (15% cheaper)

# FPL'91 Technical papers...

- K1** *Dynamically Reconfigurable Logic in Undergraduate Projects*  
P. Lysaght  
University of Strathclyde, UK
  - K2** *Undergraduate Training in ASIC Design Techniques*  
Demessie Girma and John Dunlop  
University of Strathclyde, UK
  - K3** *HPGI: A Hardware Programmable Generic Interface for the IBM PC*  
Franco Pirri and Omero Bigalli  
University of Firenze, Italy
  - K4** *Experiences using Reprogrammable Logic Devices within Undergraduate Courses*  
Martin Colley and John Standeven  
University of Essex, UK
- 4.35-6.00pm Session L: PROCESSOR ARCHITECTURES
- L1** *Using FPGAs to Prototype New Computer Architectures*  
Ifor Williams  
Manchester University, UK



## Commercial impact

- how many companies formed from related research published at FPL, 1991-2015?
- paper should be published
  - *before* the company is formed
  - authors may or may not be involved in company
- answer:



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- how many companies formed from related research published at FPL, 1991-2015?
- paper should be published
  - *before* the company is formed
  - authors may or may not be involved in company
- answer: **at least 8, all still around except 3**





## Some companies from FPL

91, Page: syn tool → Celoxica

95, Gokhale: syn tool → Impulse Accelerated Tech.

97, Betz: place/route → Right Track

99, Kastrup: device → Silicon Hive

00, Mencer: syn tool → Maxeler

02, de Sousa: IP cores → Core Works

03, Teifel: device → Achronix

07, Quinton: post-silicon debug → Veridae

# Some companies from FPL

91, Page: syn tool → Celoxica

95, Gokhale: syn tool → Impulse Accelerated Tech.

97, Betz: place/route → Right Track *bought by Altera*

99, Kastrup: device → Silicon Hive *bought by Intel*

00, Mencer: syn tool → Maxeler

02, de Sousa: IP cores → Core Works

*bought by Tektronix*

03, Teifel: device → Achronix

07, Quinton: post-silicon debug → Veridae



# FPL2015 Organising Committee

## General Chairs

Peter Cheung (Imperial College London, UK)

Wayne Luk (Imperial College London, UK)

## Programme Chair

Cristina Silvano (Politecnico di Milano, IT)

*Architectures and Technology*

Jason Anderson (University of Toronto, CA)

*Applications and Benchmarks*

Dirk Koch (University of Manchester, UK)

## Track Chairs

*Design Methods and Tools*

Dirk Stroobandt (Universiteit Gent, BE)

*Self-aware and Adaptive Systems*

Marco Platzner (Universität Paderborn, DE)

*Surveys, Trends and Education*

Walid Najjar (University of California Riverside, US)



# FPL2015 Organising Committee

## **Workshop and Tutorial Chairs**

Guy Gogniat (Université de Bretagne Sud, FR)  
Bob Stewart (University of Strathclyde, UK)

## **Industrial Workshop Chair**

Christos Bouganis (Imperial College London, UK)

## **Panel Chairs**

Michael Hübner (Ruhr-Universität Bochum, DE)  
Simon Moore (University of Cambridge, UK)

## **PhD Forum Chairs**

Dimitrios Soudris (National Technical University of  
Athens, GR)  
Andy Tyrell (University of York, UK)

## **Demo Night and Project Presentation Chairs**

Koen Bertels (Technische Universiteit Delft, NL)  
Jose Nunez-Yanez (University of Bristol, UK)

## **Proceedings Chair**

Walter Stechele (Technische Universität München, DE)

## **Significant Papers Chair**

Philip Leong (University of Sydney, AU)



# FPL2015 Organising Committee

## **Local Arrangement Team**

Wiesia Hsissen (Imperial College London, UK)  
Joshua Levine (Imperial College London, UK)  
Xinyu Niu (Imperial College London, UK)  
Edward Stott (Imperial College London, UK)

## **Webmaster**

James Davis (Imperial College London, UK)

## **Submissions Chair**

David Boland (Monash University, AU)

## **Publicity Chairs**

*Europe and Africa:* Kubilay Atasu (IBM, CH)  
*Central and South America:* Claudia Feregrino (Instituto Nacional de Astrofísica, Óptica y Electrónica, MX)  
*North America:* Henry Styles (Xilinx, US)  
*Asia:* Terence Mak (Chinese University of Hong Kong, HK)  
*Australasia:*  
Olivier Diessel (University of New South Wales, AU)



## Sponsors



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# FPL2015 Programme Highlights

- Five Keynote Addresses
- Special Session: FPL - the Past 25 Years and the Next 25 Years
- Technical Papers Organised in 3 Parallel Technical Sessions
  - *Full paper 20 min (15 min presentation & 5 min Q&A)*
- Three Poster Sessions and PhD Forum Poster Session
- Industry Exhibition and Demo Night Session
- Four Workshops and Three Industrial Workshops
- Four Half-day Tutorials
- FPL 25th Significant Papers and Best Paper Awards



## **FPL2015: Some numbers:**

- **180 TPC members organized by Track**
- **240 final submissions**
- **1213 reviews assigned**
  - **target: 5 reviews per submission**
- **1090 reviews completed**
  - **Each submission: at least 3 reviews, most 4 or 5**

**TPC MEETING held at Imperial College London on  
Friday, May 29<sup>th</sup>, 2015**





## FPL2015 Submissions: Statistics by Region

	Submissions	Percentage
<b>Africa</b>	<b>2</b>	<b>1%</b>
<b>Asia</b>	<b>58</b>	<b>24%</b>
<b>Australia</b>	<b>2</b>	<b>1%</b>
<b>Europe</b>	<b>131</b>	<b>55%</b>
<b>North America</b>	<b>45</b>	<b>19%</b>
<b>South America</b>	<b>2</b>	<b>1%</b>
<b>Total</b>	<b>240</b>	<b>100%</b>



## FPL2015 Statistics by Track

Track	Number of Submissions	Full Papers Accepted	Full Papers Acceptance Rate	Poster Papers Accepted	Full & Poster Papers Acceptance Rate
Architectures & Technology	73	18	25 %	12	41 %
Applications & Benchmarks	66	15	23 %	12	41 %
Design Methods & Tools	60	12	20 %	12	40 %
Self-aware & Adaptive Systems	14	2	14 %	5	50 %
Surveys, Trends & Education	3	1	33 %	0	33 %
<b>Total</b>	<b>216</b>	<b>48</b>	<b>22 %</b>	<b>41</b>	<b>41 %</b>
	<b>Submitted</b>	<b>Accepted</b>			
<b>PhD Forum</b>	<b>12</b>	<b>10</b>			
<b>Demos</b>	<b>12</b>	<b>11</b>			



# Three awards at Conference Banquet (Queen's Tower Rooms, Imperial College)

The **Michael Servit** Award

The **Stamatis Vassiliades** Award

The **FPL Community** Award



## Logistics

- **This building is dated back to 1800 – take care**
- **Permanent exhibition on Faraday and the RI**
- **Washroom on Ground Floor**
- **If fire alarm sounds, exit from nearest stairs**
- **Poster presenters – your poster board allocated and clearly marked in the Georgian Room**
- **Oral presenters – go to your rooms at least 10 minutes before with short bio and USB stick of your talk**



**FPL**  
**2015**

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**FPL Conference**

**@FPLConf**

Tweets   Tweets & replies

**FPL**  
**2015**

FPL Conference @FPLConf · 4h

FPL 2015 starts tomorrow! Peter, Wayne and the rest of the FPL team are looking forward to seeing you at the Royal Institution. **#FPL2015**

← ↻ ★ 1 ...

Twitter Handle: @FPLConf

URL: [twitter.com/fplconf](https://twitter.com/fplconf)

Hashtag: #FPL2015



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