University of Birmingham

Professor Chris Parker

Professor of Pure Mathematics
Director of The Graduate School

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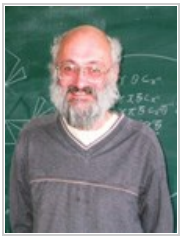
Contact details



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About

School web page: **web.mat.bham.ac.uk/C.W.Parker (http://web.mat.bham.ac.uk/C.W.Parker)**

Qualifications

- BSc (Birmingham)
- MSc (Manchester)
- PhD (Mathematics, Manchester 1988)

PhD opportunities

Research

RESEARCH INTERESTS

My main research interests are in group theory.

Recently my research has been focussed on theorems designed to recognise simple groups from some fragment of their p-local subgroup structure. These theorems are intended to be used in the projects aimed at understanding the classification of the finite simple group. For example together with Stroth(Halle) and Rowley(Manchester), I have shown that many of the finite simple group can be identified from the structure of the centralizer of an element of order 3.

I am also interested in research which applies the classification of finite simple group. In work with **Kay Magaard (/staff/profiles/maths/magaard-kay.aspx)** (Birmingham) and Ben Fairbairn (Birkbeck) I have determined those quasisimple groups which can be used to construct a Beauville surface. I have also studied the commuting graph of a finite group and with my student Luke Morgan have shown that the diameter of a connected component of such a graph has diameter at most 10.

Publications

A full listing can be found at **web.mat.bham.ac.uk/C.W.Parker/bib.htm (http://web.mat.bham.ac.uk/C.W.Parker/bib.htm)**

SELECTED:

'On a class of affine geometries' with Sergey Shpectorov and Corneliu Hoffman, Advances in Geometry . Advances in Geometry. 12 (2012), Pages 381–399,

'A note on groups in which the centraliser of every element of order 5 is a 5-group' with Sarah Astill and Rebecca Waldecker, Siberian mathematical journal 53 (2012), 781--791

'Completely reducible subcomplexes of spherical buildings' with Katrin Tent, Arch. Math. (Basel) 97 (2011), no. 2, 125--128.

'Strongly p-embedded subgroups' with Gernot Stroth, Pure Appl. Math. Q. 7 (2011), no. 3, Special Issue: In honor of Jacques Tits, 797--858.

'Recognising simplicity of black-box groups by constructing involutions and their centralisers' with Robert Wilson, J. Algebra 324 (2010), no. 5, 885–915.

'A 3-local characterization of Co_2', with Peter Rowley, J. Algebra 323 (2010), no. 3, 601--621.

'Two families of exotic fusion systems' with Murray Clelland, J. Algebra 323 (2010), no. 2, 287–304.

'Strongly p-embedded subgroups of Lie Rank 2', with Gernot Stroth, Arch. Math. (Basel) 93 (2009), no. 5, 405--413.

'A 3-local characterization of M_12 and SL_3(3)', with Sarah Astill, Arch. Math. (Basel) 92 (2009), no. 2, 99--110.

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