

# Hung Phi Tong-Viet

## Curriculum Vitae

Department of Mathematical Sciences, Kent State University

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### RESEARCH INTERESTS

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- Representation and character theory of groups
- Finite groups, permutation groups and applications

### EDUCATION

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- **PhD in Pure Mathematics**
  - University of Birmingham, United Kingdom, December 2009
  - Dissertation title: Rank 3 Permutation Characters and Maximal Subgroups
- **PhD candidate in Mathematics**
  - Wayne State University, USA, 2005 – 2007
- **BSc in Mathematics and Informatics**
  - Vietnam National University, Ho Chi Minh city, Vietnam, September 2002

### EMPLOYMENT

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- September 2015 - present: Postdoctoral Researcher at Kent State University, USA
- January - August 2015: Senior Lecturer at University of Pretoria, RSA (permanent)
- January - December 2014: Postdoctoral Fellow at Universität Bielefeld, Germany
- April 2012 - April 2014: Lecturer, University of KwaZulu-Natal, RSA (permanent)
- July 2011 - March 2012: Postdoctoral Fellow, North-West University (Mafikeng), RSA
- July 2010 - June 2011: Postdoctoral Fellow, University of KwaZulu-Natal, RSA
- January - June 2010: Research Fellow, University of Birmingham, UK
- September 2007 - December 2009: Graduate Teaching Assistant, University of Birmingham, UK
- August 2005 - June 2007: Graduate Teaching Assistant, Wayne State University, USA

## PUBLICATIONS

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44. Brauer characters of  $q'$ -degree (with M.L. Lewis), **Proceedings of the American Mathematical Society**, to appear.
43. Finite groups have more conjugacy classes (with B. Baumeister, A. Maróti), **Forum Mathematicum**, to appear. DOI: 10.1515/forum-2015-0090
42. Finite groups with many values on a column of the character table (with P.H. Tiep), **Journal of Algebra and Its Applications**, accepted
41. Nonsolvable groups with no prime dividing four character degrees (with M. Ghafarzadeh, M. Ghasemi, M.L. Lewis), **Algebras and Representation Theory**, to appear. DOI: 10.1007/s10468-016-9654-z
40. Extending Huppert's Conjecture from non-abelian simple groups to quasi-simple groups (with N.N. Hung, P.M. Majozi, T.P. Wakefield), **Illinois Journal of Mathematics**, accepted
39. The two-prime hypothesis: groups whose nonabelian composition factors are not isomorphic to  $\mathrm{PSL}_2(q)$  (with M.L. Lewis, Y. Liu), **Monatshefte für Mathematik**, to appear. DOI:10.1007/s00605-016-0954-5
38. Huppert's Conjecture for Alternating groups (with C. Bessenrodt, J. Zhang), **Journal of Algebra** 470 (2017), 353 – 378
37. Primitive permutation groups and derangements of prime power order (with T.C. Burness), **Manuscripta Mathematica** 150 (2016), no 1 – 2, 255 – 291
36.  $p$ -Parts of character degrees (with M.L. Lewis, G. Navarro, P.H. Tiep), **Journal of the London Mathematical Society** 92 (2015), 483 – 497
35. Complex group algebras of the double covers of symmetric and alternating groups (with C. Bessenrodt, H.N. Nguyen, J.B. Olsson), **Algebra and Number Theory** 9 (2015), no. 3, 601 – 628
34. Derangements in primitive permutation groups with an application to character theory (with T.C. Burness), **The Quarterly Journal of Mathematics** 66 (2015), no. 1, 63 – 96
33. Prime divisors of irreducible character degrees, **Rocky Mountain Journal of Mathematics** 45 (2015), no. 5, 1645 – 1658
32. Finite groups with  $K_4$ -free prime graph (with Z. Akhlaghi), **Algebras and Representation Theory** 18 (2015), no. 1, 235 – 256
31. A dual version of Huppert's Conjecture on conjugacy class sizes (with Z. Akhlaghi, M. Khatami, T. Le and J. Moori), **Journal of Group Theory** 18 (2015) no. 1, 115 – 131
30. On Huppert's Conjecture for the Alternating groups of low degrees (with H.N. Nguyen and T.P. Wakefield), **Algebra Colloquium** 22 (2015), no. 2, 293 – 308

29. Finite groups whose irreducible  $p$ -Brauer characters have prime power degrees, **Israel Journal of Mathematics** 202 (2014), no. 1, 295 – 319
28.  $p$ -Part of Brauer character degrees (with P.H. Tiep and G. Navarro), **Journal of Algebra** 403 (2014), 426 – 438
27. Finite groups with many distinct character degrees, **Pacific Journal of Mathematics** 268 (2014) no. 2, 477 – 492
26. Finite groups whose prime graphs are regular, **Journal of Algebra** 397 (2014), 18–31
25. Characterizing finite quasisimple groups by their complex group algebras (with H.N. Nguyen), **Algebras and Representation Theory** 17 (2014), no. 1, 305 – 320
24. Prime graphs of finite groups with a small number of triangles, **Monatshefte für Mathematik** 175 (2014), no. 3, 457 – 484
23. Rank 3 permutation characters and maximal subgroups, **Forum Mathematicum** 25 (2013), Issue 1, 49 – 106
22. Groups with some arithmetic conditions on real class sizes, **Acta Mathematica Hungarica** 140 (2013), Issue 1 – 2, 105 – 116
21. On Huppert’s Conjecture for the Conway and Fischer families of sporadic simple groups (with S.H. Alavi, A. Daneshkhan and T.P. Wakefield), **Journal of Australian Mathematical Society** 94 (2013), 289 – 303
20. Groups whose prime graphs have no triangles, **Journal of Algebra** 378 (2013), 196 – 206
19. Characterization of some simple groups by the multiplicity pattern, **Monatshefte für Mathematik** 172 (2013), Issue 2, 189 – 206
18. On Huppert’s Conjecture for  ${}^3D_4(q)$ ,  $q \geq 3$  (with T.P. Wakefield), **Algebras and Representation Theory** 16 (2013), Issue 2, 471 – 490
17. On a generalization of  $M$ -groups (with T. Le and J. Moori), **Journal of Algebra** 374 (2013), 27 – 41
16. On groups with large character degree sums, **Archiv der Mathematik** 99 (2012), Issue 5, 401 – 405
15. Projective special linear groups  $PSL_4(q)$  are determined by the set of their character degrees (with H.N. Nguyen and T.P. Wakefield), **Journal of Algebra and its Application** 11 (2012), number 6, 26 pages
14. Simple classical groups are determined by their character degrees, **Journal of Algebra** 357 (2012), Issue 1, 61 – 68
13. Simple exceptional groups of Lie type are determined by their character degrees, **Monatshefte für Mathematik** 166 (2012), no. 3-4, 559 – 577
12. Alternating and sporadic simple groups are determined by their character degrees, **Algebras and Representation Theory** 15 (2012), no. 2, 379 – 389

11. On Huppert's Conjecture for the Monster and Baby Monster (with T.P. Wakefield), **Monatshefte für Mathematik** 167 (2012), no. 3-4, 589 – 600
10. On Huppert's Conjecture for  $F_4(2)$  (with TP. Wakefield), **International Journal of Group Theory** 1 (2012), no. 3, 1-9
9. On Huppert's Conjecture for  $G_2(q)$ ,  $q \geq 7$  (with T.P. Wakefield), **Journal of Pure and Applied Algebra** 216 (2012), Issue 12, 2720 – 2729
8. Products of conjugacy classes in finite simple groups (with J. Moori), **Quaestiones Mathematicae** 34 (2011), no. 4, 433 – 439
7. Huppert's Conjecture for  $Fi_{23}$  (with S.H. Alavi, A. Daneshkahn and T.P. Wakefield), **Rendiconti del Seminario Matematico della Università di Padova** 126 (2011), 201 – 211
6. The simple Ree groups  ${}^2F_4(2^{2m+1})$  are determined by the set of their character degrees, **Journal of Algebra** 339 (2011), Issue 1, 357-369
5. Influence of strongly closed 2-subgroups on the structure of finite groups, **Glasgow Mathematical Journal** 53 (2011), Issue 03, 577 – 581
4. Symmetric groups are determined by their character degrees, **Journal of Algebra** 334 (2011), Issue 1, 275 – 284
3. Character degree sums in finite nonsolvable groups (with K. Magaard), **Journal of Group Theory** 14 (2011), Issue 1, 53 – 57
2. Normal restriction in finite groups, **Communications in Algebra** 39 (2011), Issue 1, 344 – 354
1. Groups with normal restriction property, **Archiv der Mathematik** 93 (2009), no. 3, 199 – 203

## CONFERENCE ARTICLE

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1. Recognition of finite quasi-simple groups by the degrees of their representations (with HN. Nguyen), **Groups St Andrews 2013**, 439 - 456, London Mathematical Society, Lecture Note Series 422, Cambridge University Press, 2015

## SUBMITTED

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2. Blocks of small defect in alternating groups and squares of Brauer character degrees (with X. Chen, J.P. Cossey, M.L. Lewis)
1. Groups satisfying the two-prime hypothesis with a composition factor isomorphic to  $PSL_2(q)$  for  $q \geq 7$ , (with M.L. Lewis, Y. Liu)

## TEACHING EXPERIENCE

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- Postdoctoral Researcher, Kent State University, USA
  - MATH 34001: Fundamental Concepts of Algebra (Spring 2017)
  - MATH 12003: Analytic Geometry and Calculus II (Fall 2016)
  - MATH 14001: Basic Mathematical Concepts I (Spring 2016)
  - MATH 22005: Analytic Geometry and Calculus III (Fall 2015)
- Senior Lecturer, University of Pretoria, RSA
  - WTW 211: Linear Algebra (Semester 1, 2015)
  - WTW 285: Discrete Structures (Semester 2, 2015)
- Postdoctoral Fellow, Universität Bielefeld, Germany
  - Representations and Characters of Finite Groups, April - July 2014
- Lecturer, University of KwaZulu-Natal, RSA
  - MATH 340: Algebraic Structures (Semester 2, 2012-2013)
  - MATH 322: Networks and Graph Theory (Semester 2, 2013)
  - MATH 236: Discrete Mathematics with Application (Semester 1, 2013)
  - MATH 310: Real Analysis (Semester 1, 2013)
- Postdoctoral Fellow, University of KwaZulu-Natal, RSA
  - MATH 236: Discrete Mathematics with Application (Semester 1, 2011)
- Teaching Assistant, Wayne State University, Detroit, Michigan, USA
  - MAT 1050: Algebra with Trigonometry (Fall 2006)
  - MAT 0993: Beginning Algebra (Spring/Summer 2006)

## MENTORING

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- Mr. Marijo Zvonimir Sracic, PhD, Kent State University, from October 2016
- Mr. Sesuai Yash Madanha, PhD, University of Pretoria, from April 2015
- Mr. PR Majози, MSc by Research, Part time, UKZN, 2013 - 2015
- Mr. DM Kasyoki, MSc, African Institute of Mathematical Sciences (AIMS), Cape Town, February - June 2013
- Dr. Z. Akhlaghi, Postdoctoral Fellow at UKZN, July 2013 - April 2014

## GRANTS

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- 2016: NSF grant, DMS - Algebra and Number Theory, *Extremal problems in character theory* (submitted)
- 2015: Research productivity support grant (R89, 383), University of KwaZulu-Natal
- 2015: NRF Incentive funding for rated researchers (IFRR) (R40,000), Grant No: 95891
- 2015: NRF Research development grant for Y-rated researcher (R100 000), Grant No: 93408
- 2012 - 2013: Startup Research Funds (R200 000) from the College of Agriculture, Engineering and Science, University of KwaZulu-Natal
- 2012: University of KwaZulu-Natal Research Fund (R99 000) Publications Pay-Out
- 2011: University of KwaZulu-Natal Research Fund (R54 000) Publications Pay-Out
- 2011 - 2012: NRF-free standing Postdoctoral Fellowship, Grant No: 77399

## HONORS AND AWARDS

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- July 2015 - June 2018: Honorary Senior Lecturer at School of Mathematics, Statistics and Computer Science, University of KwaZulu-Natal
- January 2014 - December 2019: Y1 rating for young researcher by the National Research Foundation of South Africa
- 2007 - 2009: Overseas Research Student Award (ORSAS) and Birmingham International Scholarships
- June 2009: Partial funding from NSF and EPSRC network Representation across the channel to attend the Conference on Algebraic Topology, Group Theory and Representation Theory
- 2009: Support from the Isaac Newton Institute for Mathematical Sciences to attend the instructional workshop in Algebraic Lie Theory
- 2008: Fully supported from the NATO Advanced Study Institute to attend the conference New Challenges in Digital Communications
- 2005 - 2007: Graduate Teaching Assistantship, Wayne State University

## RESEARCH VISITS

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- University of Akron, USA, invited by Hung N. Nguyen, from 25 April - 2 May 2015
- University of Bristol, England, invited by Timothy C. Burness, from 20 - 27 July 2014
- Central China Normal University, Wuhan, China, invited by Gang Chen, from 4 - 8 November 2013

## PROFESSIONAL MEMBERSHIPS

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- London Mathematical Society (since June 2013)
- American Mathematical Society (since January 2013)

## PROFESSIONAL SERVICE

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- Review for Mathematical Reviews since June 2012
- Referee for scientific journals
  - Journal of Algebra, Communications in Algebra
  - Archiv der Mathematik, Journal of Group Theory
  - Science China Mathematics, Quaestiones Mathematicae
  - Journal of Algebra and its applications, Czechoslovak Mathematical Journal

## SELECTED CONFERENCE AND SEMINAR TALKS

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- Binghamton University, SUNY, Colloquium, December 9, 2016
- Kent State University, Algebra seminar, December 6, 2016
- University at Buffalo, SUNY, Colloquium, November 29, 2016
- University at Buffalo, SUNY, Colloquium, April 14, 2016
- Auburn University, 2016 Southern Regional Algebra Conference, March 18 - 20, 2016
- West Virginia University, Colloquium, March 15, 2016
- University of Akron, Algebra seminar, March 11, 2016
- AIMS South Africa, CIMPA-South Africa Research School: Algebraic Representation Theory and Its Applications, July 19 - 31, 2015
- Kent State University, Colloquium, April 28, 2015
- University of Akron, Algebra seminar, May 1, 2015
- Oberwolfach Workshop ‘Representations of Finite Groups’, April 5 - 11, 2015 (Invitation only)
- Universität Bielefeld, Norddeutsches Gruppentheorie - Kolloquium, July 11 - 12, 2014
- Technische Universität Kaiserslautern, ‘Oberseminar Gruppen und Darstellungen’, June 5, 2014
- Leibniz Universität Hannover, Representation Theory Afternoon, February 10, 2014
- Central China Normal University, Wuhan, China, November 7, 2013

- University of Manchester, Brauer's Problems - 50 years on, Celebrating Geoffrey Robinson's 60th birthday, Manchester, UK, September 2 - 6, 2013
- University of St Andrews, Groups St Andrews 2013, Scotland, August 3 - 11, 2013
- Nelson Mandela Metropolitan University, Joint Congress of the South African and American Mathematical Societies, Port Elizabeth, November 29 - December 3, 2011

## **SELECTED CONFERENCES AND WORKSHOPS ATTENDED**

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- New Perspectives in Representation Theory of Finite Groups workshop at Banff International Research Station for Mathematical Innovation and Discovery, October 15 - 20, 2017 (Invitation only)
- Finite simple groups: Thirty years of the Atlas and beyond, Celebrating the Atlases and Honoring John Conway, November 2 - 5, 2015, Princeton University
- Simple groups, representations and related topics, a conference in honour of Martin Liebeck and Jan Saxl, University of Cambridge, United Kingdom, July 13 - 15, 2015
- Nikolaus Conference 2014, Lehrstuhl D für Mathematik (RWTH Aachen), December 5 - 6, 2014
- Birthday Colloquium for Gernot Stroth, University of Halle, October 10 - 11, 2014
- Algebra, Geometry and Computation, Eindhoven University of Technology, Netherlands, July, 2 - 4, 2014,
- Norddeutsches Gruppentheorie-Kolloquium, Universität Bielefeld, July 11 - 12, 2014
- Permutation Groups workshop at Banff International Research Station for Mathematical Innovation and Discovery, July 21 - 26, 2013 (Invitation only)
- South African Mathematical Society, 53rd Annual Congress, University of Pretoria, November 3 - 5, 2010
- Conference on Algebraic Topology, Group Theory and Representation Theory, Isle of Skye, Scotland, June 9 - 15, 2009
- Group Theory, Geometry and Representation Theory: Abel Prize 2008, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, May 27 - 29, 2009
- Instructional Workshop on Algebraic Lie Theory, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, January 12 - 23, 2009
- Representations of finite groups of Lie type and their subgroups, Birmingham, December 15 - 17, 2008
- Kent Regional Algebra Weekend, Kent State University, Ohio, November 18 - 19, 2006

## **REFERENCES**

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Available upon request.