Curriculum Vitae of Vyjayanthi Chari

Professional Preparation.

- 1976, B.S in Mathematics, Bombay University.
- 1980, M.S.in Mathematics, Bombay University.
- 1998, Ph.D in Mathematics, Bombay University.
- 1986-87, Member, Institute for Advanced Study.

Appointments.

- 2021-current, Distinguished Professor and Burton F. Jones Chair in Pure Mathematics, University of California, Riverside.
- 1996- 2021, Professor, University of California at Riverside.
- 2019-2023, Infosys Visiting Chair Professor, Indian Institute of Science, Bangalore, India.
- 2012-2017, Adjunct Professor, Institute of Mathematical Sciences, Chennai, India.
- 2006-2012, Department Chair, University of California at Riverside.
- 1991-1996, Associate Professor, University of California at Riverside.
- 1988-91, Fellow, Tata Institute of Fundamental Research, Bombay, India.
- 1987-88, Instructor, Rutgers University.

Honors.

- 2019-2023, Infosys Visiting Chair Professor, Indian Institute of Science, Bangalore, India.
- 2019, Simons Fellow.
- 2016, Fellow of the American Mathematical Society.
- 2015, Dissertation/Adviser Mentoring Award of the UCR Senate.
- 1990, Indian National Science Academy Medal for Young Scientist.

Selected Recent Visiting Positions.

- Oberwolfach Research Fellows, April 14-28, 2023 October 15-27, 2023.
- CNRS Professor at Institut Henri Poincare, February-March, 2020.
- Infosys Chair Professor, Indian Institue of Science, Bangalore, December 2019.
- Invited Professor, University of Paris Diderot, April-May 2019.
- Invited Professor, University of Campinas, Brazil, September-December, 2018.
- Invited Professor University of Rome, Tor Vergata, SeptemberDecember 2015.

- Invited Senior Participant of a semester on Representation Theory," Mittag-Leffler Institute, Sweden, March-May 2015.
- Invited Professor, University of Paris Diderot, June 2014.
- Invited Senior Participant, ICERM Semester Program on Automorphic Forms, Combinatorial Representation Theory and Multiple Dirichlet Series", January 28-May 3, 2013
- Invited Senior Participant in the semester On the Interaction of Representation Theory with Geometry and Combinatorics," Hausdorff Institute Bonn, 2011.

Recent Grants.

- Quantum Groups and Representation theory, NSF-2408914 Conference Grant.
- Nil Hecke Algebras and Determinantal Formulae, Travel Support for Mathematicians - MPS-TSM - 2024, Simons Foundation.
- Demazure Flags, Hypergeometric Series and Quantum affine algebras, NSF-DMS1719357, 2017-2021.
- Quantum Affine Algebras, BGG reciprocity, Macdonald Polynomials, Schur postivity, NSF-DMS 130305, 2013-2017.
- New Directions in in Lie Theory, Conference Grant, NSF-DMS1344259, 2014-2015.
- Algebraic and Combinatorial Approaches to Representation theory, Conference Grant, NSF-DMS0963910, 2009-12.
- Beyond Kirillov-Reshetikhin Modules NSF-DMS, 0901253, 2009-2013.
- Crystals, level zero representations and the Littelmann Path model NSF-DMS0500751, 2005-2009.

Recent Conference Organization.

- Combinatorics, Geometry, and Representation Theory Conference, International Center for Theoretical Sciences, Bengaluru, India, Nov 17-28, 2025.
- Quantum Groups and Representation theory, North Carolina State University, October 2024.
- Special Session at meetings of the American Mathematical Society, 2009, 2013, 2017.
- Organizer (with Erhard Neher and Alistair Savage) of a theme semester New directions in Lie theory" at Centre de Recherches Mathematique, Montreal, JanuaryJune 2014.
- Workshop on Lie theory and Related topics, UCR, 2009, 2011, 2014.
- Organizer (with Kailash Misra and Jacob Greenstein) of a follow up conference Algebraic and Combinatorial Approaches to Representation Theory,", UCR, 2011.
- Organizer (with Kailash Misra, K. Raghavan and S. Viswanath) Algebraic and Combinatorial Approaches to Representation Theory,", Bangalore, India, Satellite conference of the International Congress of Mathematicians, 2010.

Editorial work.

- Editor in Chief, Algebras and Representation Theory, 2018-present.
- Editor, Special volume in honor of Peter Littelmann, Algebras and Representation Theory.
- Editor of a special volume for Sigma, New directions in Lie theory, 2014-15.
- Associate Editor, Algebras and Representation Theory, 2013-2018.
- Editor, Journal of the Ramanujan Math Society, 2013-current.
- Editor, Pacific Journal of Mathematics, 2005-current.

Selected Recent Professional Activities.

- Service on multiple NSF Panels.
- Service on DMS-NSF Committee of Visitors 2016.
- Member of the National Science and Engineering Research Council of Canada's Banting Postdoctoral Fellowships Selection Committee, 07/2013 - 06/2016.
- Member and Chair, Noether Lecture Committee, Association of Women in Mathematics, 2008-11.

Selected Talks.

- **2023**
  Representations of affine and current Lie algebras, set of three lectures at IIT Kanpur.

  Nil Hecke Algebras and Determininanal formulae, Harischandra Centenary Conference, Allahabad, India.

  Higher order Kirillov–Reshetikhin modules and Imaginary modules, Canada-US-Mexico Conference on Representation theory, Montreal.
- **2022**
  Bases for cluster Algebras, Casa Mathematica Oaxaca.

  Representations of affine Lie algebras, Distinguished Lecture, IISer Mohali, India.
- **2021** Prime representations of quantum affine algebras, Bonn Algebra Seminar.

  Demazure modules: flags and character formulae, Oberwolfach Workshop on Quantum Groups.
- **2020**
  Quantum affine algebras and Demazure modules," Lie Days, CRM, Montreal Canada.

Macdonald polynomials and Character formulae, Conference in Honor of Bernard Leclerc's sixtieth birthday, Caen, France.

- **2019**
  Introduction to cluster algebras and their connection with current algebras, Demazure modules and quantum affine algebras," set of three lectures, Indian Institute of Science.

  Cluster Algebras and Monoidal Categorification," Distinguished Lecture Series in the Mathematical Sciences, University of Albany, New York.
- **2018**
  Prime representations of quantum affne algebras," South East Lie theory workshop, Uni versity of Georgia.

  Representations of quantum affine algebras," Plenary talk at the Twenty Fifth, Brazilian Algebra Meeting, University of Campinas.
- **2016** Demazure ags, Chebyshev polynomials and mock theta functions," TORA VII University of North Texas, Denton.

  Tensor Products and Character formulae for prime representations of quantum ane algebras," US-Mexico Conference on Representation Theory, USC, Los Angeles.

  Flags and Hypergeometric Series," Lie and Representation Theory Workshop, University of Cologne, Germany.
- **2015**
  Current Algebras and Schur positivity," Representation Theory Workshop, Uppsala Uni versity, Sweden.

  Demazure ags, Chebyshev Polynomials and Mock theta Functions," Conference on Lie Algebras, Vertex Algebras and Related Topics , University of Notre Dame.

  Lecture series on Quantum Affine Algebras, University of Rome, Tor Vergata. **2014**
  Ten Lectures on Representations of affine Lie algebras, " Winter School on Representation Theory, CRM, Montreal, Canada.

  Level two Demazure modules and prime representations," Seminar at Paris 7.

  Demazure modules of level two," Algebra Seminar University of Cologne Cologne, Germany.
- **2013**
  Posets of Partitions, Tensor products and Schur positivity," Women in Mathematics in Southern California, UCR.

  BGG Reciprocity for Current algebras," Workshop on Representation Theory, Taipei, Tai wan. **2011**
  Row Shuffles, Fusion products and Schur positivity," Workshop on Interactions between

Representation theory, Combinatorics and Geometry, Hausdorff Institute of Mathematics Bonn.

BGG reciprocity for current algebras," Seminar Cartier, Paris 7.

Ten lectures on Affine Lie algebras," Institute of Mathematical Sciences Chennai, India.

- **2010**
  Representations of Ane Lie Algebras," The Interface of Integrability and Quantization, Lorentz Center, Netherlands.

  Quantum Algebras and Representation Theory " Set of eight lectures at East China Normal University Shanghai, China.

  2009 Weyl Modules: A Categorical Approach," Enveloping Algebras and Representation Theory Oberwolfach

  Dorey's Rule Revisited," Workshop on Lie Theory, Cambridge University, Great Britain.

  A Categorical Approach to Weyl Modules," Combinatorial and Geometric Representation Theory Seoul, South Korea.
- **2008** Representations of Quantum Affine Algebras " Workshop on Quantum Groups, Extended Affine Lie Algebras and Related Topics, BIRS, Canada.

  Abelian Ideals and Koszul Algebras, Distinguished Women in Mathematics Lecture Series, University of Texas at Austin.

  Abelian Ideals and Kozulity ", Symmetries in Mathematics and Physics, Conference in Honor of Victor Kac, Cortona, Italy.
- **2007**
  Algebraic Analysis and Around, " conference in honor of Masaki Kashiwara's sixtieth birth- day , Kyoto, Japan.

  Current Algebras and Quivers " Colloquium Talk, University of Texas at Arlington.

  Current Algebras and Quivers " , Invited Speaker Workshop on Lie Theory, Academica Sinica, Taipei, Taiwan.

Ph.D students.

- Joseph Wagner, (2024).
- Jonathan Dugan, (2021).
- Maranda Smith, (2021)
- Justin Davis, (2020), Assistant Professor, Santa Rosa Junior College, California.
- Ryan Moruzzi, (2019), Assistant Professor, Cal State, East Bay.

- Kayla Murray, (2018) Assistant Professor, University of Arkansas, Fort Smith.
- Matthew Lee, (2018), Lecturer, University of Illinois at Chicago.
- Donna Blanton, (2017) Assistant Professor, College of the Desert, Califorinia.
- Matthew Odell, (2017) Director of Math Learning Center, Mathematics, Indiana University, Bloomington.
- Matthew Lunde, (2015), Lead Research Scientist at Spacetime Capital Management and Research, LLC.
- Peri Shereen, (2015) Assistant Professor, Cal State, Monterrey Bay.
- Lisa Schneider, (2015) Assistant Professor, Salisbury University,
- Jeffrey Wand, (2015) Assistant Professor, Cal State, Monterrey Bay.
- Matthew Bennett, (2012), Hannover Re.
- Nathan Manning, (2012), Senior Lecturer, University of Maryland.
- Angelo Bianchi, (2012), Assistant Professor, Federal University of Sao Paolo, Brazil.
- Ronald Dolbin, (2010), Assistant Professor, Irvine Valley College, California.
- Timothy Ridenour, (2010), Lecturer and Deputy Chair, Baruch College, CUNY.
- Prasad Senesi, (2007), Associate Professor, Catholic University of America.
- Suzanne Lindborg, (2004) Professor, Stockton College, California.
- Thang Le, (2002) Professor, College of the Desert California.
- Tammy Fisher-Vasta, (1999).

Research Supervision of Visiting Assistant Professors at UCR.

- (2015-17) Yilan Tan, Jiangsu University, China.
- (2014-17) Daniele Rosso, Assistant Professor, Indiana University Northwest.
- (2013-16) Nina Yu, Assistant Professor, Xiamen University, China.
- (2012-15) Liping Li, Professor, Hunan Normal University, Changsha, China.
- (2010-12) Eliana Zoque, Senior Vice-President, Citi, London.
- (2009-12) Irfan Bagci, Associate Professor, University of North Georgia.
- (2008-11) Konstantina Christodoulopoulou, Lecturer and Undergraduate Coordinator, University of Florida.
- (2006-09) Apporva Khare, Associate Professor, Indian Institute of Science, Bangalore, India.
- (2006-09) Rajiv Walia, Lecturer, Towson University.
- (2002-04) Dijana Jakelic, Professor, University of North Carolina, Wilmington.
- (2003-05) Adriano Moura, Associate Professor, University of Campinas, Brazil.

Mentoring of International Visiting Students and Junior Mathematicians

- (2023) Theo Pinet, Ph.D student at the University of Paris.
- (2019) Lea Bittmann, Maitre de Conference, Strasbourg.
- (2015-19) Matheus Brito, Assistant Professor, University of Curitiba, Brazil.
- (2013-16) Rajendran Venkatesh, Associate Professor, IISc. Bangalore.
- (203-2014) Sachin Sharma, Assistant Professor, IIT, Kanpur, India.

- (2014-17) Rekha Biswal, Postdoctoral Scholar, Bonn, Germany.
- (2015-18) Deniz Kuz, Junior Professor, Bochum University, Germany.
- (2014-16) Bhimarti Ravinder, Assistant Professor, IIT Tirupati, India.
- (2008-11) Tanusree Khandai, Assistant Professor, IISER Mohali, India.
- (2007-10) Ghislain Fourier, Professor, Aachen University, Germany.

References

[1] Matheus Brito and Vyjayanthi Chari, *Higher order Kirillov-Reshetikhin modules for $\mathbf{U}_q(A_n^{(1)})$, imaginary modules and monoidal categorification*, J. Reine Angew. Math. **804** (2023), 221–262, DOI: 10.1515/crelle-2023-0068.

[2] Vyjayanthi Chari, Justin Davis, and Ryan Moruzzi, *Generalized Demazure modules and prime representations in type D_n*, Representation theory, mathematical physics, and integrable systems, Progr. Math., vol. 340, Birkhäuser/Springer, Cham, [2021] ©2021, pp. 111–134, DOI: 10.1007/978-3-030-78148-4_4.

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[4] Matheus Brito and Vyjayanthi Chari, *Tensor products and q-characters of HL-modules and monoidal categorifications*, J. Éc. polytech. Math. **6** (2019), 581–619, DOI: 10.5802/jep.101 (English, with English and French summaries).

[5] Vyjayanthi Chari, Deniz Kus, and Matt Odell, *Borel–de Siebenthal pairs, global Weyl modules and Stanley-Reisner rings*, Math. Z. **290** (2018), no. 1-2, 649–681, DOI: 10.1007/s00209-017-2035-4.

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[7] Matheus Brito, Vyjayanthi Chari, and Adriano Moura, *Demazure modules of level two and prime representations of quantum affine $\mathfrak{sl}_{n+1}$*, J. Inst. Math. Jussieu **17** (2018), no. 1, 75–105, DOI: 10.1017/S1474748015000407.

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[9] Rekha Biswal, Vyjayanthi Chari, Lisa Schneider, and Sankaran Viswanath, *Demazure flags, Chebyshev polynomials, partial and mock theta functions*, J. Combin. Theory Ser. A **140** (2016), 38–75, DOI: 10.1016/j.jcta.2015.12.003.

[10] Matthew Bennett and Vyjayanthi Chari, *Character formulae and a realization of tilting modules for $\mathfrak{sl}_2[t]$*, J. Algebra **441** (2015), 216–242, DOI: 10.1016/j.jalgebra.2015.06.026.

[11] Vyjayanthi Chari, Bogdan Ion, and Deniz Kus, *Weyl modules for the hyperspecial current algebra*, Int. Math. Res. Not. IMRN **15** (2015), 6470–6515, DOI: 10.1093/imrn/rnu135.

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[14] Vyjayanthi Chari, Ghislain Fourier, and Daisuke Sagaki, *Posets, tensor products and Schur positivity*, Algebra Number Theory **8** (2014), no. 4, 933–961, DOI: 10.2140/ant.2014.8.933.

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[16] Angelo Bianchi, Vyjayanthi Chari, Ghislain Fourier, and Adriano Moura, *On multigraded generalizations of Kirillov-Reshetikhin modules*, Algebr. Represent. Theory **17** (2014), no. 2, 519–538, DOI: 10.1007/s10468-013-9408-0.

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[60] ———, *Quantum affine algebras and affine Hecke algebras*, Pacific J. Math. **174** (1996), no. 2, 295–326.
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