

## Publications

Natalia Ivanova

### Refereed journals<sup>1</sup>

1. “*Formation and evolution of compact binaries in globular clusters: I. Binaries with white dwarfs*”  
Ivanova, N., Heinke, C.O., Rasio, F., Taam, R.E., Belscynski, K., Fregeau, J. M., *MNRAS*, accepted (2006)
2. “*A Study of Compact Object Mergers as Short Gamma-Ray Burst Progenitors*”  
Belczynski, K., Perna, R., Bulik, T., Kalogera, V., Ivanova, N., Lamb, D. Q. *Astrophys. J.*, 648, 111 (2006)
3. \* “*Close Binary Interactions of Intermediate-Mass Black Holes: Possible Ultra-Luminous X-ray Sources?*”  
*Blecha, L.*, Ivanova, N., Kalogera, V., Belczynski, K., Fregeau, J., Rasio, F., *Astrophys. J.*, 642, 427 (2006)
4. “*Stellar Collisions and Ultracompact X-ray Binary Formation*”  
Lombardi, J.C., Jr., Proulx, Z. , Dooley, K.L., Theriault, E.M. , Ivanova, N. and Rasio, F.A. *Astrophys. J.*, 640, 441 (2006)
5. \* “*Binary Mergers and Growth of Black Holes in Dense Star Clusters*”  
*O’Leary, R. M.*, Rasio, F. A., Fregeau, J.M., Ivanova, N., and O’Shaughnessy, R. *Astrophys. J.*, *Astrophys. J.*, 637, 937 (2006)
6. “*The Brightest Point X-Ray Sources in Elliptical Galaxies and the Mass Spectrum of Accreting Black Holes*”  
Ivanova, N. and Kalogera, V., *Astrophys. J.*, *Astrophys. J.*, 637, 985 (2006)
7. “*Low Mass X-Ray Binaries and Metallicity Dependence: Story of Failures*”  
Ivanova, N., *Astrophys. J.*, 636, 979 (2006)
8. “*The Evolution of Binary Fractions in Globular Clusters*”  
Ivanova, N., Belscynski, K., Fregeau, J. M., and Rasio, F. A., *MNRAS*, 358, 572 (2005)
9. \* “*Understanding Compact Object Formation and Natal Kicks*  
*I. Calculation Methods and the case of GRO J1655-40*”  
Willems, B., *Henninger, M.*, *Levin, T.*, Ivanova, N., Kalogera, V., Timmes, F., and Fryer, C., *Astrophys. J.*, 625, 324 (2005)
10. “*Formation of Ultracompact X-ray Binaries in Dense Star Clusters*”  
Ivanova, N., Rasio, F. A., Lombardi, J. C., . Dooley, K. L. and Proulx Z. F. *ApJL*, 621, 109 (2005)

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<sup>1</sup>Sign \* denotes papers with directly supervised students (student’s name is in italic)

11. \* "An Observational Diagnostic for Ultraluminous X-Ray Sources"  
Kalogera, V., Henninger, M., Ivanova, N., and King, A. R., *Astrophys. J. Letters*, 603, L41-44 (2004)
12. "Thermal Timescale Mass Transfer and the Evolution of White Dwarf Binaries"  
Ivanova, N., and Taam, R. *Astrophys. J.*, 601, 1058-1066 (2003)
13. "Magnetic Braking Revisited"  
Ivanova, N., and Taam, R.E., *Astrophys. J.*, 599, 516-521 (2003)
14. "MODEST-2: a summary"  
Sills, A. and Deiters, S. and Eggleton, P. and Freitag, M. and Giersz, M. and HEGGIE, D. and Hurley, J. and Hut, P. and Ivanova, N. and Klessen, R. S. and Kroupa, P. and Lombardi, J. C. and McMillan, S. and Zwart, S. P. and Zinnecker, H., *New Astronomy*, 8, 605-628 (2003)
15. "The Role of Helium Stars in the Formation of Double Neutron Stars"  
Ivanova, N., Kalogera, V., Rasio, F. A., and Taam, R. *Astrophys. J.*, 592, 475-485 (2003)
16. "The origin of subdwarf B stars I: The formation channels"  
Han, Z., Podsiadlowski, Ph., Maxted, P. F. L., Marsh, T. R., and Ivanova, N. *Month. Not. Roy. Soc.*, 336, 449-466 (2002)
17. "Massive Star Mergers: Induced Mixing and Nucleosynthesis"  
Ivanova, N., and Podsiadlowski, Ph. *Astroph. and Space Science*, 281, 191 (2002)
18. "Hydrodynamical simulations of the stream-core interaction in the slow merger of massive stars"  
Ivanova, N., Podsiadlowski, Ph., Spruit, H. *Month. Not. Roy. Soc.*, 334, 819-832 (2002)
19. "Main-sequence stars of 10 and 30  $M_{\odot}$ : approaching the steady-state rotation"  
Denissenkov, P. A., Ivanova, N. S., and Weiss, A. *Astronomy & Astroph.*, 341, 181-189 (1999)
20. "The Effect of Stellar Wind on the Stability of Triple Stars"  
Orlov, V.V., Petrova, A.V., and Ivanova, N. S. *Month. Not. Roy. Soc.*, 281, 1326-1322 (1996)

### Submitted to refereed journals<sup>2</sup>

1. "Low mass X-ray binaries with pre-main sequence companions"  
N. Ivanova, *Astrophys. J. L.* submitted
2. "Compact Object Modeling: StarTrack Population Synthesis Code"  
K. Belczynski, V. Kalogera, F. Rasio, R. Taam, A. Zezas, T. Bulik, T. Maccarone and N. Ivanova, *Astrophys. J. Suppl. Ser.* submitted

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<sup>2</sup>In the addition to astro-ph, papers are available on-line at <http://www.cita.utoronto.ca/~nata/lit.html>

## Conference Proceedings

1. *“Formation Mechanisms for Black-Hole Binaries: Short-Period Short Stories and GRBs”*  
Justham, S., Podsiadlowski, P., Ivanova, N., & Rappaport, S., IAU Symposium, 238, p.112 (2006)
2. *“Population Synthesis with Dynamics”*  
Ivanova, N. 2006, Neutron Stars and Black Holes in Star Clusters, 26th meeting of the IAU, Joint Discussion 6, 17-18 August 2006, Prague, Czech Republic, JD06, #8 (2006)
3. \* *“Challenging the luminosity function of blue stragglers”*  
Chan, N.-H., Ivanova, N., & de Angeli, F. 2006, Modelling Dense Stellar Systems, 26th meeting of the IAU, Joint Discussion 14, 22-23 August 2006, Prague, Czech Republic, JD14, #26 (2006)
4. *“Encounters of Star Clusters: Population Synthesis”*  
Orlov, V. V., Ivanova, N. S., & Tarakanov, P. A. 2006, Modelling Dense Stellar Systems, 26th meeting of the IAU, Joint Discussion 14, 22-23 August 2006, Prague, Czech Republic, JD14, #32 (2006)
5. *“Stellar Dynamics & Feedback Connections to Stellar Evolution”*  
Ivanova, N. 2006, Modelling Dense Stellar Systems, 26th meeting of the IAU, Joint Discussion 14, 22-23 August 2006, Prague, Czech Republic, JD14, #7 (2006)
6. *“Black Hole Formation in X-Ray Binaries: The Case of GRO J1655-40”*  
Kalogera, V., Willems, B., Henninger, M., Levin, T., & Ivanova, N. 2005, AIP Conf. Proc. 797: Interacting Binaries: Accretion, Evolution, and Outcomes, 797, 241 (2005)
7. *“Effect of metallicity on low mass X-ray binaries in globular clusters”*  
Ivanova, N., IAU Symposium No. 230 “Populations of High Energy Sources in Galaxies”, held in Dublin, Ireland, 15-19th August 2005, astro-ph/0509517 (2005)
8. *“Point X-ray Sources in Elliptical Galaxies”*  
Ivanova, N., and Kalogera, V., IAU Symposium No. 230 “Populations of High Energy Sources in Galaxies”, held in Dublin, Ireland, 15-19th August 2005, astro-ph/0509515 (2005)
9. *“Population of dynamically formed triples in dense stellar systems”*  
Ivanova, N., ESO Workshop “Multiple Stars across the H-R Diagram”, held in Garching, Germany, 12-15 July 2005, astro-ph/0509516 (2005)
10. *“Binary Evolution and Neutron Stars in Globular Clusters”*  
Ivanova, N., Fregeau, J. M., and Rasio, F. A. “Binary Radio Pulsars,” ASP Conf. Series, ed. F.A. Rasio & I.H. Stairs, astro-ph/0405382 (2004)
11. *“Compact binaries in globular clusters”*  
Ivanova, N., and Rasio, F. A., Revista Mexicana de Astronomia y Astrofisica Conference Series, 20, 67 (2004)
12. *“CNO in the Post-Merger Stage of Massive Stars”*  
Ivanova, N. & Podsiadlowski, P., ASP Conf. Ser. 304: CNO in the universe, 339 (2003)

13. *"The Slow Merger of Massive Stars"*  
Ivanova, N., and Podsiadlowski, P., in Proc. "From Twilight to Highlight: The Physics of Supernova", Proc. of the ESO/MPA/MPE Workshop, 19 (2002)
14. *"The Progenitor of SN 1987A: A Progress Report"*  
Podsiadlowski, Ph., and Ivanova, N. in Proc. "From Twilight to Highlight: The Physics of Supernova", Proc. of the ESO/MPA/MPE Workshop, 13 (2002)
15. *"The Formation of Subdwarf B Stars"*  
Han, Z., Podsiadlowski, Ph., Maxted, P. F. L., Marsh, T. R., and Ivanova, N., ASP Conf. Ser. 279: Exotic Stars as Challenges to Evolution, 285 (2002)
16. *"The Slow Merger of Massive Stars: Merger Types and Post-Merger Evolution"*  
Ivanova, N., and Podsiadlowski, Ph. ASP Conf. Ser. 279: Exotic Stars as Challenges to Evolution, 245 (2002)
17. *"Differential Rotation of Massive Main-Sequence Stars"*  
Ivanova, N. S., STScI Symp. Ser. 12: Unsolved Problems in Stellar Evolution, 32 (1999)
18. *"Common-Envelope Evolution: the Nucleosynthesis in Mergers of Massive Stars"*  
Ivanova, N., Podsiadlowski, Ph., and Spruit, H. ASP Conf. Ser. 229 "Evolution of Binary and Multiple Star Systems", 261 (2001)