

CURRICULUM VITA

Shane Stadler

Professor
Department of Physics & Astronomy
Louisiana State University
Baton Rouge, LA 70803
stadler@phys.lsu.edu; 225.578.2025

(i) Professional Preparation:

Undergraduate Institution: Beloit College, WI	Major: Physics	Degree: B.A. (1992).
Graduate Institution: The University of North Dakota	Major: Physics	Degree: M.S. (1994).
Tulane University	Major: Physics	Degree: Ph.D. (1998).
Postdoctoral Institutions: NRC Fellowship/Naval Research Laboratory		(1998—2001).

(ii) Appointments:

(Aug 2013-) Professor, Louisiana State University, Department of Physics & Astronomy
(2008-2013) Associate Professor, Louisiana State University, Department of Physics & Astronomy
(2007-2008) Associate Professor, Southern Illinois University, Department of Physics
(2001-2007) Tenure-Track Assistant Professor, Southern Illinois University, Department of Physics
(1998-2001) Postdoctoral Fellow, National Research Council/Naval Research Laboratory, Materials Physics Branch, Washington, DC.

(iii) Professional Organizations

Member of the American Physical Society

Peer-Reviewed Publications (2008-Present)

2014 (March)

Asymmetric magnetoresistance in bulk In-based off-stoichiometric Heusler alloys, Igor Dubenko, Tapas Samanta, Abdiel Quetz, Ahmad Saleheen, Valerii N. Prudnikov, Alexander B. Granovsky, Shane Stadler, and Naushad Ali, (accepted for publication in *Physica Status Solidi* (b) (2014)).

Hall effect and the magnetotransport properties of $\text{Co}_2\text{MnSi}_{1-x}\text{Al}_x$ Heusler alloys, Joseph C. Prestigiacomo, David P. Young, Philip W. Adams and Shane Stadler *J. Appl. Phys.* **115**, 043712 (2014). [dx.doi.org.libezp.lib.lsu.edu/10.1063/1.4862966].

Phase Diagram and Magnetocaloric Effects in $\text{Ni}_{50}\text{Mn}_{35}(\text{In}_{1-x}\text{Cr}_x)_{15}$ and $(\text{Mn}_{1-x}\text{Cr}_x)\text{NiGe}_{1.05}$ alloys, A. Quetz, B. Muchharla, T. Samanta, I. Dubenko, S. Talapatra, S. Stadler, and N. Ali, *J. Appl. Phys.* **115** 17A922 (2014). [<http://dx.doi.org/10.1063/1.4866082>]

Filling in the Holes: Structural and Magnetic Properties of the Chemical Pressure Stabilized LnMn_xGa_3 ($\text{Ln}=\text{Ho}-\text{Tm}$; $x<0.15$), Bradford W. Fulfer, Jacob D. McAlpin, Joshua Engelkemier, Gregory T.

McCandless, Joseph Prestigiacomo, Shane Stadler, Daniel C. Fredrickson, and Julia Y. Chan, *Chem. Mater.* **26**, 1170–1179 (2014). [dx.doi.org/10.1021/cm4035424]

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Interplay between superconductivity and magnetism in $Fe_{1-x}Pd_xTe$, A. B. Karki, O. Garlea, R. Custelcean, S. Stadler, E. W. Plummer, and R. Jin, *PNAS* **110** (23), 9283 (2013). [DOI: 10.1073/pnas.1307113110]

Field-pulse memory in a spin-glass, D. C. Schmitt, J. C. Prestigiacomo, P. W. Adams, D. P. Young, S. Stadler, and J. Y. Chan, *Appl. Phys. Lett.* **103** (8), 082403 (2013). [DOI: 10.1063/1.4818262]

Tuning Properties of columnar nanocomposite oxides, Z. L. Liao, P. Gao, S. Stadler, R. Y. Jin, X. Q. Pan, E. W. Plummer, and J. D. Zhang, *Appl. Phys. Lett.* **103** (4), 043112 (2013). [DOI: 10.1063/1.4816596]

Large magnetocaloric effects over a wide temperature range in $MnCo_{1-x}Zn_xGe$, T. Samanta, I. Dubenko, A. Quetz, S. Stadler, and N. Ali, *J. Appl. Phys.* **113**, 17A922 (2013). [doi: 10.1063/1.4798339]

Evidence of martensitic phase transitions in magnetic Ni-Mn-In thin films, A. Sokolov, LE Zhang, I. Dubenko, T. Samanta, S. Stadler, and N. Ali, *Appl. Phys. Lett.* **102**, 072407 (2013). [doi:10.1063/1.4793421]

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Enhancement of ferromagnetism by Cr doping in Ni-Mn-Cr-Sb Heusler alloys, Mahmud Khan, Igor Dubenko, Shane Stadler, J. Jung, S. S. Stoyko, Arthur Mar, Abdiel Quetz, Tapas Samanta, Naushad Ali, and K. H. Chow, *Appl. Phys. Lett.* **102**, 112402 (2013). [doi: 10.1063/1.4795627]

Magnetic properties and phase transitions of gadolinium-infused carbon nanotubes, Abdiel Quetz, Igor Dubenko, Tapas Samanta, Herbert Vinson, Saikat Talapatra, Naushad Ali, and Shane Stadler, *J. Appl. Phys.* **113**, 17B512 (2013) [doi: 10.1063/1.4796151]

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Structural complexity meets transport and magnetic anisotropy in single crystalline $La_{30}Ru_4Sn_{31}$ ($Ln = Gd, Dy$), D. C. Schmitt, N. Haldoarachchige, J. Prestigiacomo, A. Karki, D. P. Young, S. Stadler, R. Y. Jin, and J. Y. Chan, *J. Am. Chem. Soc.* **135** (7), 2748 (2013). [DOI: 10.1021/ja311779t]

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Magnetostructural phase transitions and magnetocaloric effects in $MnNiGe_{1-x}Al_x$, Tapas Samanta, Igor Dubenko, Abdiel Quetz, Samuel Temple, Shane Stadler, and Naushad Ali, *Appl. Phys. Lett.* **100** (5), 052404 (1-3) (2012). [DOI: 10.1063/1.3681798]

Induced magnetic anisotropy and spin polarization in pulsed laser deposited Co_2MnSb thin films, Moti R. Paudel, Christopher S. Wolfe, Arjun K. Pathak, Igor Dubenko, Naushad Ali, M. S. Osofsky, Joseph C. Prestigiacomo, and Shane Stadler, *J Appl Phys.* **111** (2), 023903 (2011). [DOI: 10.1063/1.3676264]

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The Comparison of Direct and Indirect Methods for Determining the Magnetocaloric Parameters in the Heusler alloy $Ni_{50}Mn_{34.8}In_{14.2}B$, Igor Dubenko, Tapas Samanta, Abdiel Quetz, Alexander Kazakov, Igor Rodionov, Denis Mettus, Valerii Prudnikov, Shane Stadler, Philip Adams, Joseph Prestigiacomo, Alexander Granovsky, Arcady Zhukov, and Naushad Ali, *Appl. Phys. Lett.* **100** (19), 192402 (2012). [DOI: 10.1063/1.4714539]

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Phase transitions, magnetotransport, and magnetocaloric effects in a new family of quaternary Ni-Mn-In-Z Heusler alloys, A. Kazakov, V. Prudnikov, A. Granovsky, N. Perov, I. Dubenko, A. K. Pathak, T. Samanta, S. Stadler, N. Ali, A. Zhukov, M. Ilyin, and J. Gonzalez, *J. Nanosci. Nanotech.* **12** (9), 7426 (2012). [DOI:10.1166/jnn.2012.6542]

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Effect of partial substitution of Ni by Co on the magnetic and magnetocaloric properties of $\text{Ni}_{50}\text{Mn}_{35}\text{In}_{15}$ Heusler alloy, Arjun K. Pathak, Igor Dubenko, Yimin Xiong, Philip W. Adams, Shane Stadler, and Naushad Ali, J. Appl. Phys. **109** (7), 07A916 (1-3) (2011). [DOI: 10.1063/1.3540696]

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Conference Presentations (2008-Present)

Multifunctional properties related to magnetostructural transitions in ternary and quaternary Heusler alloys, (invited talk), I. Dubenko, A. Quetz, S. Pandey, A. Aryal, M. EubanK, I. Rodionov, I. Titov, V. Prudnikov, A. Granovsky, T. Samanta, A. Saleheen, S. Stadler, and N. Ali, *Moscow International Symposium on Magnetism (MISM-2014)*, Moscow, Russia (2014).

Phase Diagram and Magnetocaloric Effects in $Ni_{50}Mn_{35}(In_{1-x}Cr_x)_{15}$ and $(Mn_{1-x}Cr_x)NiGe_{1.05}$ alloys, Abdiel Quetz, B. Muchharla, T. Samanta, I. Dubenko, S. Talapatra, S. Stadler, and N. Ali, *(invited presentation)*, *Society of Professional Hispanic Engineers (SHPE) Indianapolis IN* (2013).

Magnetic Properties and Phase Transitions of Gadolinium-infused Carbon Nano-Tubes, Abdiel Quetz, I. Dubenko, T. Samanta, H. Vinson, S. Talapatra, N. Ali, and S. Stadler, *(invited presentation)*, *Advancing Hispanic/Chicanos & Native Americans in Science (SACNAS) San Antonio, TX* (2013).

Spin-Valve like magnetoresistance in In-based bulk Heusler alloys, Igor Dubenko, Tapas Samanta, Abdiel Quetz, Ahmad Saleheen, Valerii N. Prudnikov, Alexander B. Granovsky, Shane Stadler, and Naushad Ali, *Donostia International Conference on Nanoscaled Magnetism and Applications, Donostia - San Sebastian, Spain* (2013).

Phase Diagram and Magnetocaloric Effects in $Ni_{50}Mn_{35}(In_{1-x}Cr_x)_{15}$ and $(Mn_{1-x}Cr_x)NiGe_{1.05}$ alloys, Abdiel Quetz, B. Muchharla, T. Samanta, I. Dubenko, S. Talapatra, S. Stadler, and N. Ali, *MMM Conference, Denver CO* (2013).

Phase Diagram and Magnetocaloric Effects in Aluminum-Doped MnNiGe Alloys, A. Quetz, T. Samanta, I. Dubenko, M. Kangas, J. Chan, S. Stadler, and N. Ali, *XXII (XXII IMRC) Cancun, Mexico* (2013).

MCE in Ni-Mn-In-B systems synthesized using RF and arc-melting methods, A. Quetz, I. Dubenko, T. Samanta, S. Stadler, and N. Ali, *XXII IMRC Cancun, Mexico* (2013).

Magnetic Properties and Phase Transitions of Gadolinium-infused Carbon Nano-Tubes, A. Quetz, I. Dubenko, T. Samanta, H. Vinson, S. Talapatra, N. Ali, and S. Stadler, *MMM-Intermag 2013, Chicago, IL* (2013).

Magnetostructural phase transitions and large magnetocaloric effects in $MnCo_{1-x}Zn_xGe$, T. Samanta, I. Dubenko, A. Quetz, S. Stadler, and N. Ali, *MMM-Intermag 2013 Chicago IL* (2013).

Magnetostructural phase transitions and large magnetocaloric effects in $MnCo_{1-x}Zn_xGe$, T. Samanta, I. Dubenko, A. Quetz, S. Stadler, and N. Ali, **BX-09 12th Joint Magnetism and Magnetic Materials (MMM) Meeting**, Chicago, IL Jan. 14-18 (2013).

Magnetic properties and phase transitions in gadolinium-infused nanotubes, A. Quetz, I. Dubenko, T. Samanta, H. Vinson, S. Stadler, S. Talapatra, S. Stadler, and N. Ali, **CY-10 12th Joint Magnetism and Magnetic Materials (MMM) Meeting**, Chicago, IL Jan. 14-18 (2013).

Magnetic and martensitic phase transitions in epitaxial Ni-Mn-In base thin films, A. Sokolov, L. Zhang, I. Dubenko, T. Samanta, S. Stadler, and N. Ali, **GT-06 12th Joint Magnetism and Magnetic Materials (MMM) Meeting**, Chicago, IL Jan. 14-18 (2013).

Exchange field induced large magnetoresistance in the correlated insulator phase of ultrathin Beryllium films, Tijiang Liu, Yiming Xiong, Shane Stadler, Joseph Prestigiacomo, and Philip Adams, **Y15.00013 57 (1), APS March Meeting**, Boston, MA February 27 – March 2 (2012).

Metal-to-insulator transition in a columnar nanocomposite oxide, Zhaoliang Liao, Peng Gao, Shane Stadler, Xiaoqing Pan, Rongying Jin, E. Ward Plummer, and Jiandi Zhang, J16.00014 **57** (1), **APS March Meeting**, Boston, MA February 27 – March 2 (2012).

Magnetism and superconductivity in $Pd_{1-x}Fe_xTe$, Amar Karki, Shane Stadler, Dana Browne, Jianneng Li, and Rongying Jin, P22.00008 **57** (1), **APS March Meeting**, Boston, MA February 27 – March 2 (2012).

$BaMn_{2-x}Sb_x$: A New Semiconducting Ferromagnet, Jianneng Li, S. Stadler, A. Karki, Y. Xiong, and R. Jin, L14.00013 **57** (1), **APS March Meeting**, Boston, MA February 27 – March 2 (2012).

Phase transitions, magnetotransport, and magnetocaloric effects in quaternary Ni-Mn-In-Y Heusler alloys, I. Dubenko, V. Prudnikov, A. Granovsky, A. Pathak, S. Stadler, and N. Ali (invited talk) **Moscow International Seminar on Magnetism (MISM)** (2011).

Tunneling Measurements of the Exchange Field in Superconducting Al-EuS Bilayers, Philip Adams, Yimin Xiong, Shane Stadler, Gianluigi Catelani, Y23.00012 **56** (1), **APS March Meeting**, Dallas, TX March 21-25 (2011).

Physical Properties of $CaFe_4Se_3$ Single Crystals, Amar Karki, Yimin Xiong, Jianneng Li, Shane Stadler, Gregory McCandless, Julia Chan, and Rongying Jin, D23.00011 **56** (1), **APS March Meeting**, Dallas, TX March 21-25 (2011).

Correlation Between Structural and Magnetic Properties in $Sr_3(Ru_{1-x}Mn_x)_2O_7$ Single Crystals, Biao Hu, Gregory T. McCandless, O. V. Garlea, S. Stadler, E. W. Plummer, and R. Jin, Q17.00011 **56** (1), **APS March Meeting**, Dallas, TX March 21-25 (2011).

Chemical Doping Effect on the Thermoelectric Properties of TGa_3 ($T=Fe,Ru,Os$), Neel Haldolaarchhige, Amar Karki, Adam Phelan, Yimin Xiong, Rongying Jin, Julia Chan, Shane Stadler, and David Young, L20.00003 **56** (1), **APS March Meeting**, Dallas, TX March 21-25 (2011).

Synthesis, Structure, and Physical Properties of $Ba_2Mn_2Sb_2O$ Single Crystals, Jianneng Li, S. Stadler, A. Karki, Y. Xiong, and R. Jin, B17.00006 **56** (1), **APS March Meeting**, Dallas, TX March 21-25 (2011).

The Effect of Partial Substitution of Ni by Co on the Magnetic and Magnetocaloric Properties of $Ni_{50}Mn_{35}In_{15}$ Heusler alloy, A. K. Pathak, I. Dubenko, Y. Xiong, P. W. Adams, S. Stadler, and N. Ali **55th Annual Conference on Magnetism and Magnetic Materials**, Atlanta, GA, Nov 14-18, (2010).

Magnetic and Magnetocaloric Properties of $Gd_6X_2Si_3$ ($X=Ni, Co$) and $Ln_6Co_2Si_3$ ($Ln=Pr, La$) A. K. Pathak, I. Dubenko, S. Stadler, and N. Ali, **55th Annual Conference on Magnetism and Magnetic Materials**, Atlanta, GA, Nov 14-18, (2010).

Magnetic, Electrical and Inverse Magnetocaloric Effects in Co and Fe doped Ni-Mn-Ga Heusler alloys, A. K. Pathak, I. Dubenko, S. Stadler, and N. Ali, **Materials Research Society (MRS) Fall meeting**, Boston, MA, Nov. 29-Dec 3, (2010).

The effect of partial substitution of Ni by Co on the magnetic and electrical properties of $Ni_{50}Mn_{35}In_{15}$ Heusler alloy, A. K. Pathak, I. Dubenko, S. Stadler, and N. Ali, **11th Joint MMM-INTERMAG Conference**, Washington, DC, Jan 18-22, (2010).

Magnetism and magnetocaloric effects in $Ni_{50}Mn_{35-x}Co_xIn_{15}$ Heusler alloys, A. K. Pathak, I. Dubenko, S. Stadler, and N. Ali, **11th Joint MMM-INTERMAG Conference**, Washington, DC, Jan 18-22, (2010).

Magnetotransport properties of Ni-Mn-In Heusler Alloys: giant Hall angle, I. Dubenko, A.K. Pathak, S. Stadler, Ya. Kovarskii, V.N. Prudnikov, N.S. Perov, A.B. Granovsky and N. Ali, **International Conference on Magnetism ICM2009**, Karlsruhe, Germany, July 26-31, (2009).

Exchange bias in bulk $Ni_{50}Mn_{35}In_{15-x}Si_x$ Heusler alloys, A.K. Pathak, I. Dubenko, S. Stadler, N. Ali, **IEEE International Magnetics Conference**, Sacramento CA, May 4-8, (2009).

Magnetic and electrical properties of $Ni_{50}Mn_{35}In_{15-x}Si_x$ Heusler alloys, Arjun K. Pathak, Igor Dubenko, Shane Stadler, and Naushad Ali, **53rd Annual Conference on Magnetism and Magnetic Materials**, Abst. p.170, November 10-14 Austin, TX (2008).

Magnetic Properties of Bulk and Thin Film $Co_2MnSb_xSn_{1-x}$, M.R. Paudel, C. Wolfe, H. Anthony, I. Dubenko, N. Ali, Y. Li, D.L. Ederer, T.A. Callocot, J.W. Freeland, S. Stadler, **53rd Annual Conference on Magnetism and Magnetic Materials**, Abst. p.216, November 10-14 Austin, TX (2008).

Copper Induced Electronic Structure Changes in Giant Magnetocaloric Compound $Ni_2Mn_{0.75}Cu_{0.25}Ga$, S. Roy, E. Blackburn, S.M. Valvidares, M.R. Fitzimmons, S.C. Vogel, J.B. Kortright, S.K. Sinha, M. Khan, I. Dubenko, N. Ali, **53rd Annual Conference on Magnetism and Magnetic Materials**, Abst. p.229, November 10-14 Austin, TX (2008).

Direct Measurements of Adiabatic Temperature Change in $Ni_2Mn_{0.75}Cu_{0.25}Ga$ Heusler Alloy, V. Khovaylo, V. Kolelov, V. Shavrov, D. Karpenkov, Yu. Koshkid'ko, K. Skokov, I. Dubenko, M. Khan, S. Stadler, and N. Ali, **Moscow International Symposium on Magnetism**, Abst. p.815 June 20-25 Moscow, Russia (2008).

Phase transition temperatures and magnetic entropy changes in Ni-Mn-In-B Based Heusler alloys, Arjun K. Pathak, Bhoj R. Gautam, Igor Dubenko, and Naushad Ali, **American Physical Society March meeting**, (2008).

Invited Talk: *Magnetocaloric effects in Ni-Mn-X based Heusler alloys with $X=Ga, Sb, and In$* , Igor Dubenko, Mahmud Khan, Arjun K. Pathak, Bhoj R. Gautam, Shane Stadler, and Naushad Ali, **Moscow International Symposium on Magnetism**, Abst. p. 574 June 20-25 Moscow, Russia (2008).

(iv) Relevant Service Appointments (2008 - present)

Graduate Advisor (while at Southern Illinois University), Neutrino Experimentalist
Faculty Search Committee, Gravity Wave Experimentalist Faculty Search, Undergraduate
Laboratory Committee, Undergraduate Recruiting Committee, Safety Committee (Chair),
Graduate Laboratory Committee, Undergraduate Recruiting Committee (Chair), High School
Recruiting Committee, Faculty Mentoring Committee (Thomas Corbin), Internal Review
Committee (Chemistry), Dean's Representative (Ph.D. defense, Biology).

(v) Research Interests

Half-metallic systems (Alloys and oxides).
Ferromagnetic shape-memory and magnetocaloric alloys.
Magnetic nanocomposites.
Light-induced magnetic effects.
Synchrotron Techniques

(vii) Educational Interests/Activities

(i) Introduction to Magnetism and Magnetic Materials: Developed a course with this title which was designed to introduce upper level undergrads and beginning graduate students to the theoretical and experimental magnetism. This course was taught four times in six years as the educational component of an NSF CAREER grant.

(ii) Technology in the classroom: Development of techniques and digital media to

strengthen the effectiveness of fundamental physics courses.

(iii) Selected as the replacement, co-author team (with David Young, LSU) for the authors of the leading College Physics textbook (College Physics, by Cutnell & Johnson). Young & Stadler will author the 10th edition of this well-established text, projected for release in January, 2015.