BIOGRAPHICAL SKETCH

Manh-Huong Phan
Associate Professor
Group Leader, Laboratory for Advanced Sensor Technologies
Department of Physics
University of South Florida
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Research Interest & Expertise
Thermomagnetic and thermoelectric materials for energy-efficient refrigeration technologies; Giant magneto-impedance materials for magnetic sensor technology; Multiferroic thin films and heterostructures for spintronic devices; Magnetic polymer composites for structural health self-monitoring applications; Nanobiosensors and magnetic nanoparticles for biomedical applications; Collective phenomena in complex oxides and magnetic nanostructures.

Professional Preparation
2006 Ph.D. (Engineering Physics) University of Bristol, United Kingdom
2003 M.S. (Applied Physics) Chungbuk National University, South Korea
2000 B.S. (Solid State Physics) Hanoi National University, Vietnam

Appointments
2015-present Research Associate Professor (Permanent), Physics Dept., University of South Florida, USA
2010-15 Research Assistant Professor, Physics Dept., University of South Florida, USA
2008-10 Senior Research Associate, Physics Dept., University of South Florida, USA
2006-07 Postdoctoral Fellow, Advanced Composites Centre for Innovation and Science, University of Bristol, UK
2001-03 Research Assistant, Physics Dept., Chungbuk National University, South Korea
2000-01 Research Scientist, Physics Dept., Hanoi National University, Vietnam

Publications (selected from a total of 194 peer-reviewed publications; h-index: 30; total citations: 3658)


Synergistic Activities, Distinctions, and Selected Achievements

- **Conference Co-chair**, The 8th Energy Materials Nanotechnology (EMN) Fall Meeting, November 22 - 25, 2014, Orlando, USA
- **Section Editor**, Physics Express, Simplex Academic Publishers (2013-present)
- **Section Editor**, Austin Journal of Nanomedicine & Nanotechnology (2014 - present)
- **Editorial Board Member**, ISRN Condensed Matter Physics (2011-2013)
- **Guest Editor**, Special Issue on “Advanced Magnetic Materials: Genetics, Mechanism, and Therapies” Hindawi Publishing Corporation, 2012
- **International Advisory Committee**, Donosita International Conference on Nanoscale Magnetism and Applications (DICNMA), September 9 - 13, 2013, San Sebastián, Spain
- **Membership Referee**, The World Academy of Science (TWAS), 2013
- **Co-organizer**, the Session “Soft Magnetic Materials, GMI and Applications” at Donosita International Conference on Nanoscale Magnetism and Applications (DICNMA), September 9 - 13, 2013, San Sebastián, Spain
- **Local Organizing Committee**, Nano-Bio Collaborative International Conference, March 22-24, 2012, Tampa, Florida, USA
- **Magnetic Materials Committee Member**, the Minerals Metals and Materials Society (TMS), 2011-present
- **Book Chapter Reviewer**, Bentham Science Publishers, 2012
- **International Adjudicator**, PhD dissertations, Indian Institute of Science, Bangalore, India (2013, 2014); Andhra University, India (2012, 2013)
- **Coordinator**, The Global Education Program between USF and Vietnamese Univ. (2011-present)
Selected Invited Talks:

- “A novel biosensing platform for detection of magnetically labeled cancer cells and biomolecules”, Joint 4th Asia-Pacific Chemical and Biological Microfluidics Conference, November 2 - 4, 2015, Da Nang City, Vietnam
- "Tunable Exchange Bias in Magnetic Nanostructures for Nanopintronics and Nanomedicine" at The Magnetically Stimulated Soft Materials Conference, May 11- 12, 2015, Georgia, USA
- "Advanced magnetoimpedance based biosensing using functionalized nanoparticles" at the 59th Annual Magnetism and Magnetic Materials (MMM) Conference, November 3-7, 2014, Hawaii, USA
- "Magneto-impedance Based Detection of Magnetic Biomarkers: Opportunities and Challenges" at the Energy Materials Nanotechnology (EMN) Fall Meeting, December 7 – 10, 2013 Orlando, Florida, USA
- "Nanostructured Magnetocaloric Materials for Energy-efficient Refrigeration: Current Research and Future Directions" at Materials Research Society (MRS) Meeting, April 1-5, 2013, Moscone West, San Francisco, USA
- "Novel Clathrate-based Composite Materials for Energy-efficient Refrigeration” at The 19th International Conference on Magnetism (ICM), July 8-13, 2012, Busan, Korea
- "Recent Advances and Future Research Directions in Giant Magneto-impedance Materials" at Advanced Electromagnetics Symposium, April 16-19, 2012, Paris, France
- Magnetocaloric Manganites: Progress and Challenges" at the International Symposium on Advanced Magnetic Materials and Applications (ISAMMA07), 28 May – 1 June 2007, Jeju, South Korea

Thesis/Dissertation Committees:

- Mr. J. Devkota, PhD dissertation, 2015 (Major Professor)
- Ms. P. Lampen, PhD dissertation, 2015 (Co-Major Professor)
- Mr. N. Bingham, PhD dissertation, 2013 (Co-Major Professor)
- Mr. A. Chaturvedi, PhD dissertation, 2011 (Co-Major Professor)
- Mr. B. Casas, MS thesis, 2015 (Co-Major Professor)
- Ms. K. Stojak, MS thesis, 2013 (Co-Major Professor)
- Mr. P. Anh, MS thesis, 2012 (Committee Member)
- Mr. J. Gass, PhD dissertation, 2012 (Committee Member)
- Mr. T. Wangensteen, PhD dissertation, 2012 (Committee Member)
- Mr. C. Bauer, MS thesis, 2011 (Committee Member)
- Mr. S. Chandra, PhD dissertation, 2013 (Committee Member)
- Mr. N. Le, PhD dissertation, 2016 (Committee Member)
- Mr. H. Tran, PhD dissertation, 2016 (Committee Member)
- Mr. K. Bhattari, PhD dissertation, 2015 (Committee Member)
- Mr. M. Hordagoda, PhD dissertation, 2015 (Committee Member)
- Mr. C. Hettiarachchi, PhD dissertation, 2016 (Committee Member)
- Mr. D. Denmark, PhD dissertation, 2016 (Committee Member)
- Ms. C. Kons, MS thesis, 2015 (Committee Member)
- Ms. K. Stojak, PhD dissertation, 2016 (Co-Major Professor)
- Ms. Z. Nemati Porshokouh, PhD dissertation, 2016 (Co-Major Professor)
- Ms. H. Belliveau*, PhD dissertation, 2016 (Major Professor)
- Mr. V. Kalappattil, PhD dissertation, 2017 (Co-Major Professor)
- Ms. E. Clements, PhD dissertation, 2017 (Co-Major Professor)
- Ms. T. Eggers, PhD dissertation, 2017 (Major Professor)
- Mr. O. Thiabgoh, PhD dissertation, 2017 (Major Professor)
- Mr. Kaustuv Manna, PhD dissertation 2013, Indian Institute of Science, Bangalore, India (International Adjudicator)
- Mr. Chanchal Sow, PhD dissertation 2013, Indian Institute of Science, Bangalore, India (International Adjudicator)
- Mr. Ramesh Singampalli, PhD dissertation 2013, Andhra University, India (International Adjudicator)
- Mr. D. Tirupathi Swamy, PhD dissertation 2012, Andhra University, India (International Adjudicator)
- Mr. Venkateswararao Alaparthi, PhD dissertation 2012, Andhra University, India (International Adjudicator)
- Mr. K. Venkata Lakshmi Narayana, PhD dissertation 2012, Andhra University, India (International Adjudicator)

**Student and Postdocs Advisees:**

**Current postdoctoral researchers:** Dr. Raja Das, Dr. Javier Alonso (funded by Spanish government)

**Current graduate students:** Ms. Kristen Stojak, Mr. Vijaysankar Kalappattil, Ms. Zohreh Nemati Porshokouh, Ms. Eleanor Clements, Ms. Tatiana Eggers, Mr. Ongard Thiabgoh*, Ms. Hillary Belliveau*, and Mr. Hongxian Shen* (funded by Chinese government)

**Current undergraduate students:** Mr. Anthony Galati*, Ms. Deborah Israel

**Students graduated:** Dr. Paula Lampen (Ph.D. dissertation (link to the dissertation), April 2015; now a postdoctoral research fellow at the University of Tennessee), Dr. Jagannath Devkota (Ph.D. dissertation (link to the dissertation), April 2015; now a postdoctoral research fellow at the University of Georgia), Dr. Nicholas Bingham (Ph.D. dissertation (link to the dissertation), April 2013; now a postdoctoral research fellow at the Paul Scherrer Institute in Switzerland), Dr. Anurag Chaturvedi (Ph.D. dissertation (link to the dissertation), June 2011; now a postdoctoral researcher at University of Alabama), Mr. Brian Casas (M.S. thesis (link to the thesis), June 2015; now a Ph.D. student at University of California - Irvine), Ms. Kristen Stojak (M.S. thesis (link to the thesis), June 2013; now a Ph.D. student at USF), Mr. Rupin Singh* (B.S. honor thesis (link to the thesis), April 2015; now a PhD student at USF medicine), Ms. Trang Tran* (B.S. Research, 2012-2013; now a M.S. student at USF engineering), Mr. Jeff Wingo (B.S., June 2014; now a Ph.D. student at University of California - Irvine), Mr. Ramon Alejandro Ruiz (B.S., June 2013; now a Ph.D. student at University of California – Berkeley), Ms. Marienette Morales (M.S., June 2009; now a Ph.D. student at the University of Trieste, Italy), Mr. Nicholas Laurita (B.S., June 2011; now a Ph.D. student at Johns Hopkins University)

**Former postdoctoral researchers:** Dr. Hafsa Khurshid (Nov. 2011-May 2015; now a postdoctoral researcher at Dartmouth–Hitchcock Medical Center, USA), Dr. Anis Biswas (Nov. 2011 – Nov. 2013; now a postdoctoral researcher at Ames Laboratory, USA); Dr. Sayan Chandra (Nov. 2013 – June 2014; now a postdoctoral researcher at National Institute for Scientific Research, Canada)

**Visiting student and researchers:** Mr. Ahmed Talaat*, Visiting Ph.D. student, 03/2015-present,
University of the Basque Country, Spain *(funded by Spanish government); Mr. Jonathan Cruz Vargas, Visiting M.S. student, 03/2015-present, Instituto de Investigacion en Materials, Mexico *(funded by Spanish government); Dr. X.L. Hou*, Visiting Scientist, March 1, 2014 – March 30, 2015, Shanghai University, China *(funded by Chinese government); Mr. L. Dao*, Visiting Ph.D. student, July 1 – Dec 30, 2014, Hanoi University of Science, Vietnam *(funded by NAFOSTED); Dr. P. Zhang*, Visiting Ph.D. student, Jan. 20 – Feb. 11, 2013, Chungbuk National University, South Korea; Mr. Y.Y. Yu*, Visiting researcher, October 1 – April. 30, 2013, LG, South Korea; Dr. F. Qin*, Visiting scientist, December 10-28, 2012, University of Bristol, UK; Ms. D.T.M. Hue, Visiting Ph.D. student, July 4 – October 3, 2012, Hanoi University of Science and Technology, Vietnam *(funded by NAFOSTED); Dr. H.T. Ngo, Visiting scientist, June-August 2011, Hanoi National University, Vietnam; Dr. R. Caballero-Flores, Visiting scientist, July 1 – Sept. 30 2011, Universidad de Sevilla, Spain; and Dr. A. Figueroa, Visiting Ph.D. student, April-July 2010, Universidad de Zaragoza, Spain

**REU students:** Ms. Valery Ortiz Jimenez* (June 1- August 4, 2015), Ms. Evelyn Vila* (June 1-August 4, 2015), Mr. David Torres* (June 1- August 4, 2015), Ms. Izzi Berman* (June 1- August 4, 2014), Mr. Luis Martinez (June 1- August 4, 2014), Mr. Jeff Wingo (June 1 - August 2, 2013); Ms. Rosemary Sheldon (June 1 - August 5, 2011)


*(Unless specified*, co-supervised students and researchers with Prof. Hari Srikanth of Functional Materials Laboratory at USF)*

**Student Awards:**
- Mrs. K. Stojak, NASA Florida Space Grant Consortium (FSGC) Award, 2015
- Mr. B. Casas, GMAG-APS Student Travel Award, American Physical Society Meeting, San Antonio, TX, March 2-6, 2015
- Mr. J. Devkota, Best Poster Award, The 8th Energy Materials Nanotechnology (EMN) Fall Meeting, Orlando, Florida, USA, November 22-25, 2014
- Dr. Javier Alonso, Best Poster Award, The 59th Annual Magnetism and Magnetic Materials (MMM) Conference, November 3-7, 2014, Hawaii, USA
- Mrs. K. Stojak, Travel Award, The 59th Conference on Magnetism and Magnetic Materials (MMM), Honolulu, Hawaii, USA, November 3 - 7, 2014
- Ms. I. Berman, USF-REU Travel Award to the APS March Meeting, San Antonio, Texas, March 2 – 6, 2015
- Mr. J. Devkota, IEEE Magnetics Society Summer School Travel Award, Rio de Janeiro, Brazil, August 10-16, 2014; USF Physics Tharp Research Award, 2014; GMAG-APS Student Travel Award, American Physical Society Meeting, Baltimore, Maryland, March 18-22, 2013
- Mr. J. Wingo, The PhD fellowship in Physics from University of California - Irvine, 2014; Best Oral Presentation Award and APS 2014 Student Travel Award, USF Physics, August 12, 2013
- Mr. A. Ruiz, The 2014 NSF Graduate Research Fellowship; The Presidential Doctoral Fellowships in Applied Physics at University of California – Berkeley, Yale University, and Penn State University. Featured in *USF news* and *Tampa Bay TV news*; Best Poster Presentation Award, NanoFlorida conference, USF, Sept. 2012; Full support to attend Summer School in Magnetism and Magnetic Materials, National High Magnetic Field Laboratory, Tallahassee, FL (Jul. 2012).
- Mr. N. Bingham, Travel Grant Award, 2nd Annual IEEE Magnetics Society Summer School (Sept 20-25, 2009), Nanjing, China; Travel Grant Award, 1st Centennial of Superconductivity: Trends on
Nanoscale Superconductivity and Magnetism International Workshop (June 28-July 1st, 2011), California, Colombia, USA

- Ms. P. Lampen, NSF Travel Grant Award, the 2011 IEEE Magnetics Society Summer School (May 22-28), New Orleans, LA, USA
- Mr. N. Laurita, Offered the full PhD Fellowships in Applied Physics at Johns Hopkins University and Carnegie Mellon University, 2011

Teaching Experience:
- “Advances in Pure and Applied Physics” for graduates at USF (2008 – present)
- “Lectures on Materials Physics” for undergraduates at USF (Spring, 2011; Fall 2013)
- “Lectures on Advanced Materials Physics” for graduates at USF (Spring, 2014)
- “Directed Research and Dissertation Courses” for graduates at USF (Spring 2012; Spring, Summer, Fall 2013; Spring, Summer, Fall 2014; Spring, Summer, Fall 2015)

Collaborators (past 5 years, alphabetical order):
Prof. Sang-Wook Cheong (Rutgers University), Prof. Huynh-Dang Chinh (Hanoi University of Technology, Vietnam), Prof. Victorino Franco (University of Seville, Spain), Prof. Aleksandr S. Kamzin (Ioffe Physico-Technical Institute, Russian Academy of Sciences), Prof. Tho Nguyen (The University of Georgia, USA), Dr. Vladimir Larin (Microfiber Technology Industry, Moldova), Dr. Anh-Tuan Le (Hanoi University of Science and Technology, Vietnam), Prof. Chris Leighton (University of Minnesota), Prof. David Mandrus (University of Tennessee), Prof. Michael McHenry (Carnegie-Mellon University), Prof. Subhra Mohapatra (University of South Florida), Prof. British Mukherjee (University of South Florida), Prof. George Nolas (University of South Florida), Dr. The-Long Phan (Chungbuk National University, South Korea), Prof. Hua-Xin Peng (Bristol University, England), Dr. Faxiang Qin (National Institute for Materials Science, Japan), Prof. Nguyen Xuan Phuc (Institute of Materials Science, Vietnam), Prof. Nguyen Thu Huong (Hanoi National University), Prof. Michael Shatruk (Florida State University), Prof. Hariharan Srikanth (University of South Florida), Prof. Jayan Thomas (University of Central Florida), Prof. Manuel Vazquez (Institute of Materials Science, Spain), Prof. Sarath Witanachchi (USF), Prof. Seong-Cho Yu (Chungbuk National University, South Korea), and Prof. Arkaday Zhukov (Spain).

Host of Researchers’ Visits and Organizer of Physics Colloquium/Special Physics Seminars:
- Dr. José Luis Sánchez Llamazares, Instituto Potosino de Investigacion Cientifica y Tecnologica, Mexico (May 1-10, 2015)
- Dr. Do Hung Manh, Institute of Materials Science, Vietnam (April 25-28, 2015)
- Prof. Tran Dai Lam, Graduate University of Science and Technology, Institute of Materials Science, Vietnam (April 25-28, 2015)
- Prof. Bethanie J. Hills Stadler, University of Minnesota, USA (February 26-27, 2015)
- Prof. Pedro Gorria, University of Oviedo, Spain (November 26 – 27, 2014)
- Prof. Dong-Hyun Kim, Chungbuk National University, South Korea (November 26 – 27, 2014)
- Dr. Ioanna Giouroudi, Vienna University of Technology, Austria (November 26 – 27, 2014)
- Prof. Tho Nguyen, The University of Georgia, USA (November 26 – 27, 2014)
- Prof. David Mandrus, The University of Tennessee, USA (September 11 – 13, 2014)
- Prof. Manuel Vázquez, Institute of Materials Science of Madrid, CSIC, Spain (November 8 – 12, 2013)
Prof. Oscar Iglesias, Dpt. Fisica Fonamental, University of Barcelona, Spain (July 8 – August 7, 2013)

Prof. Huynh Dang Chinh, Department of Chemistry, Hanoi University of Science and Technology, Vietnam (June 12, 2013)

Dr. Binh Duong, NanoScience Technology Center, University of Central Florida, USA (June 4, 2013)

Dr. Faxiang Qin, Advanced Composites Centre for Innovation and Science, University of Bristol, United Kingdom (December 10-28)

Prof. Nguyen TK Thanh, Department of Physics & Astronomy, University College London, Gower Street, London, WC1E 6BT, United Kingdom (March 21-24, 2012)

Prof. Arkady Zhukov, IKERBASQUE, Basque Foundation for Science, 48011 Bilbao, Spain (May 16-18, 2012)

Prof. Nguyen Xuan Phuc, Institute of Materials Science, Vietnam Academy of Science and Technology, 18 Hoang Quoc Viet, Hanoi, Vietnam (September 19-21, 2012)

Prof. Seong-Cho Yu, Department of Physics, Chungbuk National University, South Korea (October 7-10, 2012)

Funded Research Grants:

- Department of Defense (DOD) Research Grant "Roles of defects and anisotropies on the spin caloric properties of complex oxides" United States: $379,000 (2015-2018)
  (Dr. M.H. Phan as Co-PI, University of South Florida)

- Florida Space Grant Consortium “Confinement effects and magnetic interactions in one-dimensional magnetic nanostructures” United States: $4,950 (2015-2016)
  (Dr. M.H. Phan as PI, Kristen Stojak as Awardee, University of South Florida)

- Department of Energy (DOE) Research Grant "Ground state magnetism and cooperative phenomena in correlated electron oxide materials" United States: $420,000 (2013-2016)
  (Dr. M.H. Phan as Co-PI, University of South Florida), Featured in USF news.

- CAS Research Grant “Upgrading a novel impedance-based probe technique for investigating dynamic magnetic and AC magnetotransport properties in new spintronic materials ” United States: $1,500 (2013-2014)
  (Dr. M.H. Phan as PI, University of South Florida)

- USF Faculty International Travel Grant, 2012, United States: $2,500.00
  (Dr. M.H. Phan as PI, University of South Florida)

- New Researcher Grant – USF Research Foundation “Nanostructured multiple phase materials for energy-efficient refrigeration” United States: $18,730.65 (2011-2012)
  (Dr. M.H. Phan as PI, University of South Florida)

- Department of Energy (DOE) Research Grant "Magnetic frustration and cooperative phenomena in correlated electron oxide materials" United States: $405,000 (2010-2013)
  (with Dr. H. Srikanth as PI, University of South Florida)

  (with Dr. N.T. Huong as PI, Hanoi National University, Vietnam)

- Korea Research Grant “Advanced magnetocaloric materials for magnetic refrigeration applications” Korea: $100,000 (2011-2014)
  (with Dr. S.C. Yu as PI, Chungbuk National University, South Korea)
- Engineering and Physical Sciences Research Council (EPSRC) Grant "Magnetic microwire as an alternative to optical fibres for self-monitoring composites", United Kingdom: $160,000 (2008 – 2009)
  (with Dr. H.X. Peng as PI, University of Bristol)