Curriculum Vitae

Nicole M. Iovine, MD, PhD

Associate Professor of Medicine

Office Address and Contact Information:

Department of Medicine, Division of Infectious Diseases and Global Medicine
University of Florida Health, College of Medicine
1600 SW Archer Road
Room D2-14D
Gainesville, Florida 32610
Tel: 352-273-8606 Fax : 352-392-6481
E-mail: nicole.iovine@medicine.ufl.edu

Education:

1987 – 1992 BA Degree in Biology
The City University of New York, Baruch College
17 Lexington Avenue, New York, New York

1993 – 2000 MD Degree
New York University School of Medicine
550 First Avenue, New York, New York

1995 – 1999 PhD Degree
New York University Sackler Institute of Graduate Biomedical Studies
Department of Microbiology
550 First Avenue, New York, New York
Thesis title: *Clearance of Endotoxin-Containing Particles by the Neutrophil Bactericidal/ Permeability-Increasing Protein: A Structural Approach*
UMI dissertation #9945288
Principal Investigators: Dr. Peter Elsbach and Dr. Jerrold Weiss

Training and Professional Experience:

1992 – 1993 Albert Einstein College of Medicine, Department of Cell Biology
1300 Morris Park Avenue, Bronx, New York
Principal Investigator: Dr. Birgit Satir

1998 &1999 (6 mos/yr) University of Iowa School of Medicine
Department of Medicine, Division of Infectious Diseases
200 CMAB, Iowa City, Iowa
Principal Investigators: Drs. Michael Apicella and William Nauseef

2000 – 2002 Internal Medicine Short-Track Internship and Residency
New York University: Bellevue, Tisch, Manhattan VA and Memorial-Sloan Kettering Cancer Center Hospitals

550 First Avenue, New York, New York

2002 – 2005 Infectious Diseases Research Track Fellowship
New York University: Bellevue, Tisch and VA Hospitals
Department of Medicine, Division of Infectious Diseases & Immunology
550 First Avenue, New York, New York

2003 – 2005 Postdoctoral Fellowship
New York University School of Medicine
Department of Microbiology
550 First Avenue, New York, New York
Project: Reactive nitrogen species in the control of *Campylobacter jejuni* infection
Mentors: Dr. Martin J. Blaser and Dr. Yvette Weinrauch

Professional Qualifications:

Florida State Medical License #105641
DEA #BI7425xxx
National Provider Identification #104 331 2556
Certified, Infectious Diseases – 2005 through 2015
Recertified, Infectious Diseases – 2015 through 2025

Faculty Appointments:

2005 – 2008 Instructor of Medicine
2008 – 2009 Assistant Professor of Medicine
New York University
Department of Internal Medicine, Division of Infectious Diseases and Immunology
550 First Avenue, New York, New York

2009 – 2014 Assistant Professor of Medicine
Department of Internal Medicine, Division of Infectious Diseases and Global Medicine
University of Florida Health/Shands Hospital
1600 SW Archer Road, Gainesville, Florida

2014 – Present Associate Professor of Medicine
Department of Internal Medicine, Division of Infectious Diseases and Global Medicine
University of Florida Health/Shands Hospital
1600 SW Archer Road, Gainesville, Florida

Hospital Appointments:

2005 – 2008 Attending Physician, Bellevue Hospital
Department of Internal Medicine, Division of Infectious Diseases and Immunology
462 First Avenue, New York, New York

2005 – 2008 Attending Physician, New York Harbor Veteran's Administration Medical Center
Department of Internal Medicine, Division of Infectious Diseases

423 East 23rd Street, New York, New York

2009 – present Attending Physician, University of Florida Health/Shands Hospital
Department of Internal Medicine, Division of Infectious Diseases and Global Medicine
1600 SW Archer Road, Gainesville, Florida

2009 –2013 Attending Physician, NF/SG Malcom Randall Veteran's Health System
Department of Internal Medicine, Division of Infectious Diseases
1601 SW Archer Road, Gainesville, Florida

2012 – 2015 Director, Antimicrobial Management Program
University of Florida Health/Shands Hospital
1600 SW Archer Road, Gainesville, Florida
2015 – present Co-Director, Antimicrobial Management Program (as above)

2013 – present Hospital Epidemiologist, University of Florida Health/Shands Hospital
1600 SW Archer Road, Gainesville, Florida
This is an 863-bed tertiary care, referral center with serving a diverse population of approximately 2 million persons in North Central Florida.

Academic Faculty Activities

2005 – 2009 Director, New York University Division of Infectious Diseases and Immunology Grand Rounds Fundraising and Conference Committee

2011 – present Member, Department of Medicine Faculty Compensation Committee, University of Florida Health

2012 – present Member, Pharmacy and Therapeutics Committee, University of Florida Health

2012 – present Chair, Anti-Infective Sub-Committee, University of Florida Health

2013 – present Chair, Infection Prevention and Control Committee, University of Florida Health

2014 – present Member, Clinical Competency Committee, Division of Infectious Diseases and Global Medicine, University of Florida Health

2016 – present Member, College of Medicine Faculty Compensation Committee, University of Florida Health

Research Support:

2004 – 2005 National Research Service Award Training Grant (#5 T32 AI07180-24)
Infectious Diseases and Basic Microbiological Mechanisms
New York University School of Medicine, Department of Microbiology
Principal Investigator: Claudio Basilico, PhD
Iovine Role: Post-doctoral awardee

2005 – 2008 National Institute of Health Mentored Clinical Scientist Development Award (K08)
Grant #: 1 K08 AI065676-01
New York University School of Medicine, Department of Medicine
Mentors: Dr. Martin Blaser and Dr. Yvette Weinrauch
Title: *Campylobacter jejuni* and Reactive Nitrogen Species

Iovine Role: Principal Investigator

2007 – 2009 Michael Saperstein Medical Scholar Award
New York University, Department of Medicine
Title: Autophagy as an Innate Immune Defense Against *Campylobacter jejuni*
Iovine Role: Principal Investigator

2009 – Present University of Florida Gatorade Funding
Title: Killing of Extremely Drug-Resistant (XDR) Gram Negative Bacteria (GNB) by the Recombinant Bactericidal/Permeability-Increasing Protein (rBPI21)
Iovine Role: Principal Investigator

2010-2013 Bankhead-Coley Florida Biomedical Research Program
Grant # 10BN-05
Title: The Role of Smoking in the Promotion of Crohn's Disease, a Predisposing Condition to Colon Cancer
Mentor: Dr. John Valentine followed by Dr. Sarah Glover
Iovine Role: Principal Investigator

2011 – 2013 Gatorade Award
University of Florida, Department of Medicine
Title: *Pseudomonas* Bloodstream Infections
Iovine Role: Principal Investigator

2014 – Present Influenza Research Collaboration (IRC 005)
University of Florida, Department of Emergency Medicine
Title: A Randomized Double-Blind, Phase 3 Study Comparing the Efficacy and Safety of High-Titer versus Low-Titer Anti-Influenza Immune Plasma for the Treatment of Severe Influenza A
PI: Marie-Carmelle Elie, MD
Iovine Role: PI Proxy

2014 – Present Influenza Research Collaboration (IRC 003)
University of Florida, Department of Emergency Medicine
Title: A Randomized Double-Blind Phase 2 Study Comparing the Efficacy, Safety, and Tolerability of Combination Antivirals (Amantadine, Ribavirin, Oseltamivir) versus Oseltamivir for the Treatment of Influenza in Adults at Risk for Complications
PI: Marie-Carmelle Elie, MD
Iovine Role: PI Proxy

Teaching Experience:

1996 – 1999 Tutor, New York University School of Medicine and the Sackler Institute of Graduate Biomedical Studies
Medicine, Pathology, Physiology, Microbiology, Immunology, Cell Biology, Advanced Cell

1996 – 1999 Small Group Leader, New York University School of Medicine
Physiology, Medical Microbiology and Immunology, for 1st year medical students

2003 – 2004 Instructor, New York University School of Medicine

	Physical Diagnosis, for 2nd year medical students
2003 - 2008	Lecturer, New York University Department of Medicine "Opportunistic Infections" and "Lower Gastrointestinal Infections", for Internal Medicine Residency Core Lecture Series
2007 – 2008	Lecturer, New York University "Enteric Pathogens and Food Safety", Master's of Public Health Core Lecture Series
2009 – 2012	Small Group Leader and Lecturer, University of Florida, School of Medicine Medical Microbiology course; "Sepsis" and Interactive Case Presentation
2009 – present	Lecturer, University of Florida, Department of Medicine "Gastrointestinal Infections" - Internal Medicine Residency Noontime Conferences - Infectious Disease Fellows Didactic Core Lectures - Physician Assistant Core Lecture Series

Mentorship:

2004 – 2008	Undergraduates: NYU Summer Undergraduate Research Program participants
2005 – 2008	Pre-med and med students: Greg Wasserman, Alex Voldman, Andrea Weitz, Jennifer Collins, Steven Ovadia, Martin Wolff, Reem Itani, John Delano Physicians: Seema Pursnani, Adnan Diwani, Sean Cloonan, Jeffrey Joseph

Honors and Awards (selected)

1992	Valedictorian of the Class of 1992, City University of New York, Baruch College
1992	Golden Key Honor Society Inductee, City University of New York
1998	International Endotoxin Society Young Investigator Award
1998	Arthur C. DeGraff Fellow, New York University School of Medicine
1999	New York University School of Medicine Esserman Fellowship
2000	Homer Smith Physiology Award
2000	Alpha Omega Alpha Honor Society, New York University School of Medicine
2002	Infectious Disease Fellow of the Year
2005	Citation of Excellence for a Poster Presentation, 43rd Annual Meeting of the IDSA, San Francisco, CA
2012	Excellence in Teaching Award, University of Florida, Department of Medicine
2014	Outstanding Leadership in Quality and Patient Safety University of Florida, Department of Medicine

Professional Affiliations:

1990 – present	Golden Key National Honor Society
1995 – present	American Association for the Advancement of Science
1998 – present	The International Endotoxin and Innate Immunity Society
2000 – present	Alpha Omega Alpha Honor Society, Delta Chapter
2002 – present	Infectious Disease Society of America

2013 – present Society for Health Care Epidemiology

Service and Other Professional Activities:

2003 – present Ad hoc reviewer: Journal of Infectious Diseases, Microbes and Infection, FEMS Immunology & Medical Microbiology, Cellular Microbiology, Medical Microbiology and Immunology, Virulence, PLOS ONE, British Medical Journal

2009 – Present Moderator, Infectious Disease Division/Department of Microbiology Case Conference University of Florida Department of Medicine, Division of Infectious Diseases and Global Medicine

2014 – Present Member, Antimicrobial Resistance Committee, Infectious Disease Society of America

2016 – Present Member, Outbreak Response Training Program Advisory Panel, Society for Healthcare Epidemiology of America/Centers for Disease Control and Prevention

Peer-Reviewed Publications (Published and Accepted for Publication):

1997 **Iovine NM,** Elsbach P and Weiss J. An opsonic function of the neutrophil bactericidal/permeability increasing protein depends on both its N- and C-terminal domains. Proc Natl Acad Sci USA; 94:10973-10978.

1997 Tobias P, Soldau, K, **Iovine NM**, Elsbach, P and Weiss, J Lipopolysaccharide (LPS)-binding proteins BPI and LBP form different types of complexes with LPS. J Biol Chem; 272:18682-18685.

2002 **Iovine NM,** Eastvold J, Elsbach P, Weiss, JP and Gioannini TL. The carboxyl-terminal domain of closely related endotoxin-binding proteins determines the target of protein-lipopolysaccharide complexes. J Biol Chem; 277:7970-7978.

2006 Kang JM, **Iovine NM** and Blaser MJ. A paradigm for direct stress-induced mutation in prokaryotes. FASEB J; 20: 2476-2485.

2008 **Iovine NM,** Pursnani S, Voldman A, Wasserman A, Blaser MJ and Weinrauch Y. Reactive nitrogen species contribute to innate host defense against *Campylobacter jejuni*. Infect Immun; 76:986-993.

2011 Keo T, Collins J, Kunwar P, Blaser MJ and **Iovine NM**. *Campylobacter* capsule and lipooligosaccharide confer resistance to serum and cationic antimicrobials. Virulence; 2:30-40.

2012 Joseph JM, Voldman A, Zoumalan CI, Lisman RD and **Iovine NM**. Antibacterial analysis of surgical adhesives. Plast Reconstr Surg, 129:402e.

2013 Alcántar-Curiel MD, Blackburn D, Saldaña Z, Gayosso-Vázquez C, **Iovine NM**, De la Cruz MA, and Giron JA. Multi-functional analysis of *Klebsiella pneumoniae* fimbrial types in adherence and biofilm formation. Virulence; 4:129-138.

2013 Weitz A, Spotnitz R, Collins J, Ovadia S and **Iovine NM**. Log reduction of multidrug-resistant Gram-negative bacteria by the neutrophil-derived recombinant bactericidal/permeability-increasing protein. Int J Antimicrob Agents; 42:571-4.

2014 Pardo J, Klinker KP, Borgert SJ, Butler BM, R and KH, **Iovine NM**. Detection of *Neiserria meningitidis* from negative blood cultures and cerebrospinal fluid with the Filmarray Blood Culture Identification Panel. J Clin Micro; 52:2262-4.

2014 **Iovine NM**, Ison T, Payton T, Morris JG, and Rand K. High percentage of false-positive results for influenza B obtained with a rapid point of care test. Clin Inf Dis; 59:604-5.

2014 Almaghrabi R, Clancy CJ, Doi Y, Hao B, Chen L, Shields RK, Press E, **Iovine N**, Townsend BM, Kreiswirth B, Nguyen MH. Carbapenem-resistant *Klebsiella pneumoniae* strains exhibit diversity in aminoglycoside-modifying enzymes, which exert various effects on plazomicin and other agents. Antimicro Agents Chemo; 58:4443-51.

2014 Jones MK, Watanabe M, Zhu S, Graves CL, Keyes LR, Grau KR, Gonzalez-Hernandez MB, **Iovine NM**, Wobus CE, Vinjé J, Tibbetts SA, Wallet SM, Karst SM. Enteric bacteria promote human and murine norovirus infection of B cells. Science; 346:755-9.

2015 **Iovine NM**, Morris JG Jr, Fredenburg K, Rand K, Alnuaimat H, Lipori G, Brew J, Lednicky JA. Severity of influenza A (H1N1) illness and emergence of the D225G variant, 2013-14 influenza season, Florida, USA. Emerg Inf Dis; 21:664-7.

2015 Shields RK, Clancy CJ, Hao B, Chen L, Press EG, **Iovine NM**, Kreiswirth BN, Nguyen MH. Effects of *Klebsiella pneumoniae* carbapenemase subtypes, extended-spectrum β-lactamases and porin mutations on the in vitro activity of ceftazidime-avibactam against carbapenem-resistant *Klebsiella pneumoniae*. Antimicro Agents Chemo; 59:5793-7.

2015 Tyndall JA, Gerona R, DePortu G, Trecki J, Elie MC, Lucas J, Slish J, Rand K, Bazydlo L, Holder M, Ryan MF, Myers P, **Iovine N**, Plourde M, Weeks E, Hanley JR, Endres G, St. Germaine D, Dobrowolski PJ, Schwartz M. An outbreak of acute delirium from exposure to the synthetic cannabinoid AB-CHMINACA. Clin Toxicol; 53:950-6.

2016 Lednicky JA, **Iovine NM,** Brew J, Loeb JC, Sugimoto JD, Rand KH, Morris JG Jr. Hemagglutinin gene clade 3C.2a influenza A(H3N2) viruses, Alachua County, Florida, USA, 2014-15. Emerg Inf Dis; 22:121-3.

2016 **Iovine NM,** Lednicky J. Cherabuddi K, Crooke H, White SK, Loeb JC, Cella E, Ciccozzi M, Salemi M, Morris JG, Jr. Co-infection with Zika and Dengue-2 Viruses in a traveler returning from Haiti, 2016: Clinical presentation and genetic analysis. Clin Inf Dis; X:xx-x (in press).

Invited Book Chapters:

2008 **Iovine NM.** Innate Immunity in *Campylobacter* Infections. In: Campylobacter. Nachamkin I, Szymanski C and Blaser MJ, Eds. 3rd ed., ASM Press, Washington, DC.

2015 Allos BM*, **Iovine NM*** and Blaser MJ. *Campylobacter* and related species. In: Principles and Practice of Infectious Disease. Mandell, GL, Bennett, JE and Dolin, R, Eds. 8th ed., Elsevier, Phila, PA.
*Both authors contributed equally to this work.

2015 Schain D, Brown S, **Iovine NM**. Protecting the Healthcare Practitioner. In: Critical Care. Civetta, Taylor, & Kirby, Eds. 5th Ed., Lippincott Williams & Wilkins, Phila, PA.

Invited Reviews and Editorials:

2004 **Iovine NM** and Blaser MJ. Antimicrobial Resistance in *Campylobacter*. Emerg Infec Dis; 10(4):1436.

2004 **Iovine NM** and Blaser MJ. Antibiotics in Animal Feed and Spread of Resistant *Campylobacter* from Poultry to Humans. Emerg Infec Dis; 10(6):1158-1159.

2012 **Iovine NM.** *Campylobacter jejuni* and *Campylobacter fetus*.
Iovine NM. Pneumocystis.
Both chapters in: Clinical Decision Support: Infectious Disease. Southwick FS, Hirschel B, Karchmer AW, Kauffman C and Wenzel R, Eds. 1st ed., Decision Support in Medicine, LLC, Wilmington, DE.

2013 **Iovine NM.** Resistance Mechanisms in *Campylobacter jejuni*. Virulence; 4:230-240.

Invited Oral Presentations:

1996 **Iovine NM**, Elsbach P and Weiss J. The C-Terminal Half of the Bactericidal/ Permeability-Increasing Protein Promotes Opsonophagocytosis of *E. coli* by Human Polymorphonuclear Leukocytes. The Molecular Basis of Sepsis, Woods Hole, MA.

1998 **Iovine NM**, Elsbach P and Weiss J. The Bactericidal/Permeability-Increasing Protein Promotes CD-14-Dependent Delivery of Purified Lipopolysaccharide to Human Monocytes. The 5th Conference of the International Endotoxin Society, Sante Fe, NM.

2004 **Iovine NM**, Keo T and Weinrauch Y. Host:Pathogen Interactions Between Human Colonic Epithelium and Invasive *Campylobacter jejuni*. The 44th Annual Interscience Conference on Antimicrobial Agents and Chemotherapeutics of the American Society for Microbiology, Washington, DC.

2008 **Iovine NM.** Highly Active Anti-Retroviral Therapy: When to Start. Clinical Controversies in Medicine, NYU Post-Graduate Medical School, West Point, NY.

2009 **Iovine NM.** An Endogenous Antimicrobial Protein with Efficacy Against Multi-Drug-Resistant Gram-Negative Bacteria: The Bactericidal/Permeability-Increasing Protein. Clinical Conference Coverage (C3) (an online news program) of the 47th Annual Meeting of the Infectious Disease Society of America, Philadelphia, PA.

2010 **Iovine NM**. Drug-Resistant Gram-Negative Infections: Are We Returning to the Pre-Antibiotic Era? University of Florida Health, Department of Medicine Grand Rounds, Gainesville, Fl.

2011 Cloonan SJ, Collins J, Weitz AC, Dubytska L, Ovadia S and **Iovine NM.** *Campylobacter* is Susceptible to Killing by Autophagy. The 16th International Workshop on Campylobacter, Helicobacter and Related Organisms, Vancouver, Canada.

2012 **Iovine NM**. Novel Antibiotics. 43rd Annual Topics in Internal Medicine, University of Florida Health, Department of Medicine, Gainesville, Fl.

2012 **Iovine NM**. The Andromeda Strain: Epidemic Influenza. University of Florida Health, Department of Medicine Grand Rounds, Gainesville, Fl.

2013 **Iovine NM**. Why Have an Antimicrobial Management Program? University of Florida Health, Department of Medicine Grand Rounds, Gainesville, Fl.

2013 **Iovine NM**. What in the World is the Difference Between HAC and NHSN, and What Does it Mean for Me? University of Florida, Department of Medicine Grand Rounds, Gainesville, Fl.

2014 **Iovine NM**. Hospital Acquired Infections. Continuing Medical Education, University of Florida, 45th Topics in Internal Medicine Conference, Orlando, Fl.

Poster Abstracts (selected):

2004 **Iovine NM,** Zagzag D, Handel J and Greene JB. Voriconazole in the Successful Treatment of Vertebral Osteomyelitis Caused by *Aspergillus fumigatus*. XV International AIDS Conference, Bangkok, Thailand.

2008 Cloonan SJ, Weitz AC, Collins J, Ovadia S, Blaser MJ and **Iovine NM.** Autophagy and the Innate Immune Response to *Campylobacter jejuni*. 48th ICAAC/IDSA 46th Annual Meeting, Washington, DC.

2009 Cloonan SJ, Collins J, Weitz AC, Ovadia S, Blaser MJ and **Iovine NM.** Autophagy is a Novel Innate Immune Defense Against *Campylobacter jejuni*. 14th International Workshop on Campylobacter, Helicobacter and Related Organisms, Niigata, Japan.

2013 Rand K, Santiago I, Delano J, Archibald L, Houck H and **Iovine N**. Multi-drug Resistant *Acinetobacter* Burn Unit Outbreak: Application of Matrix-Assisted Laser Desorption Ionization Time-of-flight Mass Spectrometry (MS) in Determining Strain Differentiation. 113th General Meeting of the American Society for Microbiology, Denver, CO.

Interests and Hobbies:

Former professional ballet dancer, Garden State Ballet Company, Newark, New Jersey. Continued informal ballet dancing weekly through the present.

References: Available upon request.