



## Imelda Balboni

Clinical Associate Professor, Pediatrics - Rheumatology

### CLINICAL OFFICE (PRIMARY)

- **Pediatric Rheumatology**

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### ACADEMIC CONTACT INFORMATION

- **Alternate Contact**

Maria Martinez - Patient Coordinator

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## Bio

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### CLINICAL FOCUS

- Pediatric Rheumatology

### ACADEMIC APPOINTMENTS

- Clinical Associate Professor, Pediatrics - Rheumatology

### PROFESSIONAL EDUCATION

- Residency: Children's Hospital of Orange County (2002) CA
- Fellowship: Stanford University Pediatric Rheumatology Fellowship (2005) CA
- Internship: Children's Hospital of Orange County (2000) CA
- Medical Education: University of Connecticut School of Medicine Registrar (1999) CT
- Board Certification: Pediatrics, American Board of Pediatrics (2002)
- Board Certification: Pediatric Rheumatology, American Board of Pediatrics (2006)
- Ph.D., University of Connecticut , Biomedical Science (1999)
- M.D., University of Connecticut (1999)

## Research & Scholarship

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### CURRENT RESEARCH AND SCHOLARLY INTERESTS

Pediatric systemic lupus erythematosus;

Autoimmune disease;

Proteomics and autoantigen microarray technology

### CLINICAL TRIALS

- Observational Study of Pediatric Rheumatic Diseases: The CARRA Registry, Recruiting

## Teaching

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### GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Pediatric Rheumatology (Fellowship Program)

## Publications

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### PUBLICATIONS

- **Interleukin(IL)-1/IL-6-inhibitor-associated drug reaction with eosinophilia and systemic symptoms (DReSS) in systemic inflammatory illnesses.** *The journal of allergy and clinical immunology. In practice*  
Saper, V. E., Tian, L., Versteegen, R. H., Conrad, C. K., Cidon, M., Hopper, R. K., Kuo, C. S., Osoegawa, K., Baszis, K., Bingham, C. A., Ferguson, I., Hahn, T., Horne, et al  
2024
- **Assessing Pediatric Rheumatology Fellow Competence in the Milestone Era: Past, Present and Future.** *Arthritis care & research*  
Nowicki, K. D., Balboni, I. M., Cidon, M. J., Dhanrajani, A. D., Driest, K. D., Fair, D. C., Imundo, L. F., Mehta, J. J., Tarvin, S. E., Walters, H. M., Woolnough, L. C., Edgar, L. C., Curran, et al  
2023
- **CHARACTERIZATION OF TWO NOVEL DNASE1L3 VARIANTS IN A PATIENT WITH A MONOGENIC FORM OF SYSTEMIC LUPUS ERYTHEMATOSUS**  
Leon, A., Vera, P. L., Bonner, D., Kohler, J., Reuter, C., Zastrow, D., Majcherska, M., Fernandez, L., McCormack, C., Marwaha, S., Fisher, P., Ashley, E., Maller, et al  
SAGE PUBLICATIONS LTD.2023: NP391-NP392
- **Profiling Behavioral and Psychological Symptoms in Children undergoing treatment for Spondyloarthritis and Polyarthritis.** *The Journal of rheumatology*  
McHugh, A., Chan, A., Herrera, C., Park, J. M., Balboni, I., Gerstbacher, D., Hsu, J. J., Lee, T., Thienemann, M., Frankovich, J.  
1800
- **Supporting Patient-Centered Care in the Pediatric Rheumatology Setting: Patient, Family and Provider Experiences with OurNotes**  
Khalsa, U., Pooni, R., Sandborg, C., Balboni, I., Wayman, K., Lee, T.  
WILEY.2021: 2225-2228
- **Effect of Drug Withdrawal on Interleukin-1 or Interleukin-6 Inhibitor Associated Diffuse Lung Disease**  
Saper, V., Prahalad, S., Canna, S., Abdul-Aziz, R., Alvarez, M., Bingham, C., Bader-Meunier, B., Balboni, I., Berard, R., Bolaria, R., Boneparth, A., Casey, A., Cassidy, et al  
WILEY.2021: 3403-3405
- **A challenging case of recurrent idiopathic hemophagocytic lymphohistiocytosis (HLH) initially presenting in an infant with Pneumocystis jirovecii pneumonia**  
Solomon, B., Balagtas, J., Chien, M., Pooni, R., Balboni, I., Weinacht, K., Gernez, Y.  
SPRINGER/PLENUM PUBLISHERS.2021: S55
- **Childhood-onset Takayasu Arteritis: A Single Center Case Series of Atypical and Varied Presentations**  
Khalsa, U., Balboni, I.  
WILEY.2020: 186–87
- **PET/MR findings in large vessel vasculitis in children**  
Young, V., Khalsa, U., Balboni, I., Nadel, H.  
SOC NUCLEAR MEDICINE INC.2020
- **Integrated, multicohort analysis reveals unified signature of systemic lupus erythematosus.** *JCI insight*  
Haynes, W. A., Haddon, D. J., Diep, V. K., Khatri, A. n., Bongon, E. n., Yiu, G. n., Balboni, I. n., Bolen, C. R., Mao, R. n., Utz, P. J., Khatri, P. n.  
2020; 5 (4)
- **DNASE1L3 RELATED AUTOIMMUNE SYNDROME: A CASE REPORT AND REVIEW OF THE LITERATURE**  
Schymick, J., Bonner, D., Majcherska, M., McCormack, C., Fresard, L., Smith, K., Montgomery, S., Fisher, P., Ashley, E., Ud, N., Maller, J., Hsu, J., Balboni, et al

BMJ PUBLISHING GROUP.2019: 80–81

- **Autoantibody Profiling in Lupus Patients using Synthetic Nucleic Acids** *SCIENTIFIC REPORTS*  
Klecka, M., Thybo, C., Macaubas, C., Solov'yov, I., Simard, J., Balboni, I., Fox, E., Voss, A., Mellins, E. D., Astakhova, K.  
2018; 8: 5554
- **Resilience and Transition Readiness in Pediatric SLE Patients**  
Lai, J., Nelson, L., Balboni, I., Lee, T., Hsu, J.  
WILEY.2017
- **Mass cytometry identifies a distinct monocyte cytokine signature shared by clinically heterogeneous pediatric SLE patients.** *Journal of autoimmunity*  
O'Gorman, W. E., Kong, D. S., Balboni, I. M., Rudra, P., Bolen, C. R., Ghosh, D., DAVIS, M. M., Nolan, G. P., Hsieh, E. W.  
2017
- **Synthetic oligonucleotide antigens modified with locked nucleic acids detect disease specific antibodies** *SCIENTIFIC REPORTS*  
Samuelsen, S. V., Solov'yov, I. A., Balboni, I. M., Mellins, E., Nielsen, C. T., Heegaard, N. H., Astakhova, K.  
2016; 6
- **Multiplex giant magnetoresistive biosensor microarrays identify interferon-associated autoantibodies in systemic lupus erythematosus** *SCIENTIFIC REPORTS*  
Lee, J., Haddon, D. J., Wand, H. E., Price, J. V., Diep, V. K., Hall, D. A., Petri, M., Baechler, E. C., Balboni, I. M., Utz, P. J., Wang, S. X.  
2016; 6
- **Novel Phospholipid-Protein Conjugates Allow Improved Detection of Antibodies in Patients with Autoimmune Diseases.** *PLoS one*  
Samuelsen, S. V., Maity, A., Nybo, M., Macaubas, C., Lønstrup, L., Balboni, I. M., Mellins, E. D., Astakhova, K.  
2016; 11 (6)
- **Single-cell systems-level analysis of human Toll-like receptor activation defines a chemokine signature in patients with systemic lupus erythematosus** *JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY*  
O'Gorman, W. E., Hsieh, E. W., Savig, E. S., Gherardini, P. F., Hernandez, J. D., Hansmann, L., Balboni, I. M., Utz, P. J., Bendall, S. C., Fantl, W. J., Lewis, D. B., Nolan, G. P., Davis, et al  
2015; 136 (5): 1326-1336
- **Broad-spectrum antibodies against self-antigens and cytokines in RAG deficiency** *JOURNAL OF CLINICAL INVESTIGATION*  
Walter, J. E., Rosen, L. B., Csomos, K., Rosenberg, J. M., Mathew, D., Keszei, M., Ujhazi, B., Chen, K., Lee, Y. N., Tirosh, I., Dobbs, K., Al-Herz, W., Cowan, et al  
2015; 125 (11): 4135-4148
- **Autoantigen microarrays reveal autoantibodies associated with proliferative nephritis and active disease in pediatric systemic lupus erythematosus** *ARTHRITIS RESEARCH & THERAPY*  
Haddon, D. J., Diep, V. K., Price, J. V., Limb, C., Utz, P. J., Balboni, I.  
2015; 17
- **Autoantigen microarrays reveal autoantibodies associated with proliferative nephritis and active disease in pediatric systemic lupus erythematosus.** *Arthritis research & therapy*  
Haddon, D. J., Diep, V. K., Price, J. V., Limb, C., Utz, P. J., Balboni, I.  
2015; 17: 162-?
- **Protein microarray analysis reveals BAFF-binding autoantibodies in systemic lupus erythematosus** *JOURNAL OF CLINICAL INVESTIGATION*  
Price, J. V., Haddon, D. J., Kemmer, D., Delepine, G., Mandelbaum, G., Jarrell, J. A., Gupta, R., Balboni, I., Chakravarty, E. F., Sokolove, J., Shum, A. K., Anderson, M. S., Cheng, et al  
2013; 123 (12): 5135-5145
- **Interferon- $\alpha$  induction and detection of anti-ro, anti-la, anti-sm, and anti-rnp autoantibodies by autoantigen microarray analysis in juvenile dermatomyositis.** *Arthritis and rheumatism*  
Balboni, I., Niewold, T. B., Morgan, G., Limb, C., Eloranta, M., Rönnblom, L., Utz, P. J., Pachman, L. M.  
2013; 65 (9): 2424-2429
- **Type I interferon receptor controls B-cell expression of nucleic acid-sensing Toll-like receptors and autoantibody production in a murine model of lupus** *ARTHRITIS RESEARCH & THERAPY*

- Thibault, D. L., Graham, K. L., Lee, L. Y., Balboni, I., Hertzog, P. J., Utz, P. J.  
2009; 11 (4)
- **Evaluation of microarray surfaces and arraying parameters for autoantibody profiling** *PROTEOMICS*  
Balboni, I., Limb, C., Tenenbaum, J. D., Utz, P. J.  
2008; 8 (17): 3443-3449
  - **Protein microarrays address the elephant in the room** *CLINICAL CHEMISTRY*  
Kattah, M. G., Utz, P. J., Balboni, I.  
2008; 54 (6): 937-939
  - **IRF9 and STAT1 are required for IgG autoantibody production and B cell expression of TLR7 in mice** *JOURNAL OF CLINICAL INVESTIGATION*  
Thibault, D. L., Chu, A. D., Graham, K. L., Balboni, I., Lee, L. Y., Kohlmoos, C., Landrigan, A., Higgins, J. P., Tibshirani, R., Utz, P. J.  
2008; 118 (4): 1417-1426
  - **Systemic hyalinosis: A distinctive early childhood-onset disorder characterized by mutations in the anthrax toxin receptor 2 gene (ANTRX2)** *PEDIATRICS*  
Shieh, J. T., Swidler, P., Martignetti, J. A., Ramirez, M. C., Balboni, I., Kaplan, J., Kennedy, J., Abdul-Rahman, O., Enns, G. M., Sandborg, C., Slavotinek, A., Hoyme, H. E.  
2006; 118 (5): E1485-E1492
  - **A new two-color Fab labeling method for autoantigen protein microarrays** *NATURE METHODS*  
Kattah, M. G., Alemi, G. R., Thibault, D. L., Balboni, I., Utz, P. J.  
2006; 3 (9): 745-751
  - **Multiplexed protein array platforms for analysis of autoimmune diseases** *ANNUAL REVIEW OF IMMUNOLOGY*  
Balboni, I., Chan, S. M., Kattah, M., Tenenbaum, J. D., Butte, A. J., Utz, P. J.  
2006; 24: 391-418
  - **A sea anemone's environment affects discharge of its isolated nematocysts** *COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY A-MOLECULAR & INTEGRATIVE PHYSIOLOGY*  
Greenwood, P. G., Balboni, I. M., Lohmann, C.  
2003; 134 (2): 275-281