

# Curriculum Vitae

## Ariane Jansma

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### Current Employment

**Point Loma Nazarene University** *San Diego, CA* Jan 2, 2014 - Present  
Assistant Professor  
*Department of Chemistry*

### Education

**University of California, San Diego** *San Diego, CA* 2004 – 2009  
PhD in Biochemistry  
Dissertation Title: Structural and Functional Analysis of the Chemokine CCL27 and Expression of the Chemokine Receptor D6  
Sponsor: Tracy Handel, PhD

**San Diego State University** *San Diego, CA* 2001 – 2004  
MS in Analytical Chemistry  
Thesis Title: Development and Implementation of a Micro-Coil Capillary Flow NMR System in a Drug Discovery Environment  
Sponsors: Bernhard Geierstanger, PhD and John Love, PhD

**Pepperdine University** *Malibu, CA* 1996 – 2001  
BS in Chemistry  
BA in Spanish, *Cum Laude*

### Teaching Experience

**The Scripps Research Institute** *La Jolla, CA* 2012

- Mentor to high school summer intern
  - Designed appropriate research project for high school student
  - Supervised lab work, notebook and final presentation
- Mentor for Students Modeling a Research Topic (SMART) program
  - Program involves utilizing 3-dimensional printing to create a protein model
  - Directed 8 students and their teacher throughout the project

**University of California, San Diego** *La Jolla, CA* 2005 – 2006

- Teaching Assistant
  - Molecular Biology Laboratory, Winter 2005
  - Biochemistry Laboratory, Spring 2005
  - Honors General Chemistry Lecture, Fall 2006

**University of California, San Diego** *La Jolla, CA* 2008 – 2009

- NMR workshops
  - Coordinated and conducted several workshops involving NMR maintenance, software training and experiment design for graduate students and postdocs from Skaggs School of Pharmacy and Scripps Institute of Oceanography

## Research Experience

**The Scripps Research Institute**  
Postdoctoral Research Associate  
*Wright Laboratory*

*La Jolla, CA*

2010 – 2013

- Analysis of protein:protein interactions by NMR
  - Design, expression and purification of WT and mutant forms of protein binding partners
  - Multi-dimensional  $^{15}\text{N}$ - $^1\text{H}$ ,  $^{13}\text{C}$ - $^1\text{H}$  NMR experiments on single and double-labeled samples

**UCSD Department of Chemistry and Biochemistry**

*San Diego, CA*

2004 – 2009

PhD Candidate

- NMR analysis of both Monomeric and Oligomeric forms of WT and mutant CCL27
  - Multi-dimensional  $^{15}\text{N}$ - $^1\text{H}$ ,  $^{13}\text{C}$ - $^1\text{H}$  NMR experiments on single-labeled samples
  - PFG diffusion experiments on unlabeled samples to measure diffusion coefficients
  - Development of  $^{13}\text{C}$ -edited PFG diffusion experiment to measure GAG-induced oligomerization
- Functional analysis
  - WT and mutant CCL27 to determine receptor binding epitopes and design of antagonist forms
  - Chemotaxis, transendothelial migration, and calcium flux with chemokine receptor CCR10
  - GAG binding studies using affinity chromatography, solubility assays, as well as HSQC chemical shift perturbation analysis and edited PFG diffusion by NMR

**UCSD School of Pharmacy**

*San Diego, CA*

2007 – 2009

Acting NMR Facilitator

- Coordinated set-up of two 600 MHz systems
  - Bruker 5.0mm Cryo and 1.7mm CryoProbes
- Train all users on both IconNMR and Topspin
- Implemented IconNMR Automation Software for natural product chemists
- Troubleshooting and routine maintenance of hardware and software

**Genomics Institute of the Novartis Foundation (GNF)**

*San Diego, CA*

2002 – 2004

Research Associate, NMR Spectroscopy

- Facilitator for three Bruker NMR systems
  - 600 MHz NMR with 5.0mm CryoProbe
  - 400 MHz NMR system with room temperature QNP probe and automation platform
  - 400 MHz NMR system with micro-coil flow probe and automation platform
- Small molecule structure elucidation support for medicinal chemistry
- Train new users in IconNMR and XwinNMR
- Troubleshooting and routine maintenance of hardware and software
- Development and implementation of automated micro-coil flow NMR system
- Metabolomics studies of low MW components in serum

**DuPont Pharmaceuticals/Deltagen Research**

*San Diego, CA*

2001 – 2002

Contracted NMR Spectroscopist

- Facilitator for two Varian NMR systems
  - 500 MHz NMR with interchangeable 5.0mm, 3.0mm and flow probes
  - 300 MHz NMR with automation platform
- Small molecule structure elucidation in support of medicinal chemistry
- Troubleshooting and routine maintenance of hardware and software
- Quantitative analysis of compound libraries via automated flow NMR

## Community Outreach and Education

- **Office of Educational Outreach Events** *The Scripps Research Institute*
  - National SMART Conference participant 2012
  - Fulton K-8 School Career Day Speaker 2012

- **AWIS Outreach Committee** 2008 – 2013
  - Focus on bringing science to the community
  - Participation includes judging science fairs, liquid nitrogen demonstrations at elementary schools, presenting a general chemistry laboratory workshop for seeing impaired students, running a booth at the San Diego Science Expo
- **Expanding Your Horizons (EYH)** *University of San Diego* 2009 – 2010
  - Hands-on workshops in science, technology, engineering and math for girls in grades 6 through 10
  - Coordinated the Crime Scene Investigators workshop
- **Angel Tree Coordinator** *Prison Fellowship* 2008 – 2013
  - Program provides Christmas gifts to children of incarcerated felons
  - Coordinator responsibilities involve contacting caregivers to determine appropriate gifts, assigning children to sponsors, fund raising and collecting donations, hosting the annual Angel Tree Party for children, caregivers and sponsors (and Santa Claus), overseeing deliveries to all families who cannot attend the party and updating the incarcerated parents
- **Board of Directors, Friends of Rose Canyon** 2011 –Present
  - Help coordinate guided nature walks and education programs for local schools and the community of University City
  - Regularly Act as spokesperson at community events focused on issues involving Rose Canyon

## Honors and Awards

- Alumni Association Faculty Grant Spring 2016
- Research and Special Project (RASP) Grant Fall 2015
- Wesleyan Center Scholar Award Fall 2014
- Research and Special Projects (RASP) Grant Fall 2014
- Alumni Association Faculty Grant Spring 2014
- NRSA Postdoctoral Fellowship, NIH 2010 - 2013
- Molecular Biophysics Training Grant, NIH 2006 - 2008
- Teaching Assistant Excellence Award, Dept. of Chem/Biochem, UCSD 2006

## Professional Affiliations

- Protein Society
- Faculty of 1000 Associate Faculty Member
- American Chemical Society (ACS)
- California Analytical Chemist Organization (CACO), San Diego
- Association for Women in Science (AWIS)

## Publications

Salanga, C.L.\*; Jansma, A.L.\*; Dyer, D.P.; Handel, T.M. "Distinct signaling and glycosaminoglycan-binding properties of the CC chemokine receptor type 10 ligands, CCL27 and CCL28." **2016**, *Manuscript in final preparation for submission to PLoS One*.

\* **Authors contributed equally**

**Jansma AL**, Martinez-Yamout MA, Liao R, Sun P, Dyson HJ, Wright PE. "The high-risk HPV16 E7 oncoprotein mediates interaction between the transcriptional coactivator CBP and the retinoblastoma protein pRb." *J. Mol. Biol.*, **2014**, 426(24): 4030 – 48.

Severin, I.; Gaudry, J. P.; Johnson, A.; Kungl, A.; **Jansma, A.**; Gesslbaur, B.; Mulloy, B.; Power, C.; Proudfoot, A. I. E.; Handel, T. M. **2010**. Characterization of the chemokine CXCL11 – heparin interaction suggests two different affinities for glycosaminoglycans. *J. Biol. Chem.* 285 (23), 17713 – 17724

**Jansma, A.**; Kirkpatrick, J.; Hsu, A.; Handel, T. M.; Nietlspach, D. **2010**. NMR Analysis of the Structure, Dynamics, and Unique Oligomerization Properties of the Human Chemokine CCL27. *J. Biol. Chem.* 285 (19), 14424 – 14437.

**Jansma, A.**; Handel, T.; M. Hamel, D. **2009**. Homo- and hetero-oligomerization of chemokines. *Methods Enzymol.* 461, 31 – 50

Winter, J. M.; **Jansma, A.**; Handel, T. M.; Moore, B. S. **2008**. Formation of the Pyridazine Natural Product Azamerone by Biosynthetic Rearrangement of an Aryl Diazoketone. *Angewandte Chemie*, 48 (4), 767-770

**Jansma, A.**; Zhang, Q.; Li, B.; Ding, Q.; Uno, T.; Bursrlaya, B.; Liu, Y.; Furet, P.; Gray, N.; Geierstanger, B. **2007**. Verification of a Designed Intramolecular Hydrogen Bond in a Drug Scaffold by Nuclear Magnetic Resonance Spectroscopy. *J. Med. Chem.* 50 (24), 5875 – 5877

**Jansma, A.**; Chuan, T.; Albrecht, R. W.; Olson, D. L.; Peck, T. L.; Geierstanger, B. H. **2005**. Automated Microflow NMR: Routine Analysis of Five-Microliter Samples *Anal. Chem.* 77, 6509 – 6515