

## BIOGRAPHICAL SKETCH

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<b>A. NAME</b>	<b>POSITION &amp; TITLE</b>
Matthew B. Johnson	Assistant Professor in Condensed Matter Experiment

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### 1. EDUCATION (Begin with Baccalaureate or other initial professional education and include training.)

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INSTITUTION	DEGREE	YEAR	FIELD OF STUDY
California Institute of Technology	Ph.D.	1989	Applied Physics
California Institute of Technology	M.S.	1984	Physics
Univ. of Waterloo, Ontario	B.S.	1979	Physics

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### 2. POSITIONS HELD

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Associate Professor in Condensed Matter Experiment 2000-present	University of Oklahoma
Assistant Professor in Condensed Matter Experiment 1995-2000	University of Oklahoma
Post-Doctoral Position in Physical Sciences 1991-1994	IBM, Research Division, Switzerland
Post-Doctoral Position in Silicon Technology 1988-1991	IBM, Research Division, NY
IBM Research Fellow in Applied Physics 1986-1988	IBM Research Fellow in Applied Phys., CA
National Sci. and Engineering Research Council Fellow (Canadian) Research Fellow in Applied Physics 1982-1986	Caltech
Teaching Assistant for Solid State Physics, Applied Physics 1984-1985	Caltech
Millikan Research Fellow, Physics 1982-1983	Caltech

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### 3. ACTIVITIES AND HONORS

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IBM Pre-Doctoral Fellowship, Caltech 1985-86  
NSERC Science Scholarship (Canada), Caltech, 1982-85.  
Robert A. Millikan Fellowship, Caltech, 1982-1983  
2nd place in Canadian Association of Physicists' Prize Exam, 1979.  
NSERC 1967 Sciences Scholarship (Canada), 1979

### B. TEN SELECTED PUBLICATIONS: (from about 60 total publications)

1. "InGaAs/GaAs three-dimensionally-ordered array of quantum dots," **Y.I. Mazur**, W.Q. Ma, X. Wang, Z.M. Wang, G.J. Salamo, M. Xiao, T.D. Mishima and M.B. Johnson, *Appl. Phys. Lett.* 83, 987 (2003).
2. "Large-Scale Synthesis of Nearly Monodisperse CdSe/CdS Core/Shell Nanocrystals Using Air-Stable Reagents via Successive Ion Layer Adsorption and Reaction." **J.J. Li**, Y.A. Wang, W. Guo, J.C. Keay, T.D. Mishima, M.B. Johnson, and X. Peng, *J. Am. Chem. Soc.* 125, 12567 (2003).
3. "Fabrication of Nanoring Arrays by Sputter Redeposition Using Porous Alumina Templates," **K.L. Hobbs**, P.R. Larson, G.D. Lian, J.C. Keay, and M.B. Johnson, *Nanoletters* 4, 167 (2004).
4. "Observation of excitonic transitions in InSb quantum wells," **N.Dai**, F. Brown, P. Basic, G.A. Khodaparast, R.E. Doezema, M.B. Johnson, S.J. Chung, K.J. Goldammer, and M.B. Santos, *Appl. Phys. Lett.* 73, 1101, (1998).
5. "Near-field scanning optical nanolithography using amorphous silicon photoresists," **M.K. Herndon**, R.T. Collins, R.E. Hollingsworth, P.R. Larson, and M.B. Johnson, *Appl. Phys. Lett.* 74, 141, (1999).
6. "Study of factors limiting electron mobility in InSb quantum wells," **S.J. Chung**, S.C. Lindstrom, N. Dai, K.J. Goldammer, F. Brown, M.B. Johnson, R.E. Doezema, and M.B. Santos, *J. Vac. Sci. Technol.* B 17, 1151 (1999).
7. "Atomic fluorine beam etching of silicon related materials," **P.R. Larson**, K.A. Copeland, G. Dharmasena, R.A. Lassel, M. Keil, and M.B. Johnson, *J. Vac. Sci. Technol* B 18, 307 (2000).

8. "Unambiguous observation of subband transitions from longitudinal valley and oblique valleys in IV-VI multiple quantum wells" **H.Z. Wu**, N. Dai, M.B. Johnson, and P.J. McCann, *App. Phys. Lett.* 78, 2199 (2001).
9. "Mobility anisotropy in InSb/Al<sub>x</sub>In<sub>1-x</sub>Sb single quantum wells" M. A. Ball, J. C. Keay, S. J. Chung, M. B. Santos, and M. B. Johnson, *App. Phys. Lett.* 80, 2138 (2002).
10. "Be delta-doped layers in GaAs imaged with atomic resolution using scanning tunneling microscopy," M.B. Johnson, P.M. Koenraad, W.C. van der Vleuten, H.M.W. Salemink and J.H. Wolter, *Phys. Rev. Lett.* 75, 1606 (1995).
11. **RECENT COLLABORATORS** (other than those cited in the publication list):  
 Sheena Murphy, Physics and Astronomy, University of Oklahoma  
 Ivan Yip, Chemistry and Biochemistry, University of Oklahoma  
 Michael T. Ashby, Chemistry and Biochemistry, University of Oklahoma  
 Kenneth J. Dormer, University of Oklahoma Health Sciences Center  
 M H Kuok, Department of Physics, National University of Singapore  
 David J. Lockwood, Inst. for Microstructural Sciences, National Research Council (Canada)  
 Veena Misra, Assistant Professor, Department of ECE, North Carolina State University  
 Oscar Komla AWITOR, Département Mesures Physiques, Université d'Auvergne  
 John Kirtley: IBM Research Division, Yorktown Heights, NY  
 Michael Lilly, Sandia National Labs
12. **GRADUATE STUDENTS AND POSTDOCS** (last five years):  
 Current graduate students advisees, 4. Current postdoctoral scholars sponsored, 2.
13. **GRADUATE AND POSTDOCTORAL ADVISORS:**  
 Postdoctoral advisor: H.W.M. Salemink, J.-M. Halbout  
 Graduate Advisor: T.C. McGill
14. **EXTERNAL FUNDING:**
  1. NSF-CAREER Supplement, 1998-2004, \$200,000. (with Match)
  2. Center for Semiconductor Physics in Nanostructures, M.B. Johnson, G.J. Salamo (Arkansas), NSF-MRSEC ( with 15 other researchers at OU and UA) \$4,500,000 Sept. 2000- Aug 2005.  
 RET supplement to MRSEC, \$40,000 May. 2001- Sept. 2001.  
 AWARE supplement to MRSEC, \$25,000 2001-2002.
  3. OK NANO-NET as part of the NSF-EPSCoR: Co-Operative Agreement; Collaborative grant with OU, OSU and TU. OU PIs M.B. Johnson, D. Resasco, K. Mullen, P.J. McCann \$1,107,066
  4. NanoLab – a Hands-On Introduction to Nanoscience for Scientists and Engineers, L.A. Bamm and M.B. Johnson, NSF-DMR, NUE (Nano Undergraduate Education), \$100,000, 05/2003 – 05/2004