

## Dr. P. Shiv Halasyamani

### Education / Experience:

1988-1992	University of Chicago, B.Sc. (Honors) Chemistry
1992-1996	Northwestern University, Ph.D. Chemistry Advisor: Prof. Kenneth R. Poeppelmeier
1997-1998	Post-Doctoral Associate, University of Oxford
1998-1999	Junior Research Fellow, Christ Church, University of Oxford Advisor: Prof. Dermot O'Hare
1999-2005	Assistant Professor, Department of Chemistry, University of Houston
2005-2010	Associate Professor, Department of Chemistry, University of Houston
2010-present	Professor, Department of Chemistry, University of Houston

### Awards and Honors:

2001	NSF Career Award
2002	Beckman Young Investigator
2003	ExxonMobil Solid State Faculty Award
2004	Excellence in Research Award (UH) - Assistant Professor Level
2008-present	Adjunct Professor: Xinjiang Tech. Inst. of Physics and Chemistry, CAS
2009	Excellence in Research Award (UH) - Associate Professor Level
2010	Dow Lecturer – University of Minnesota
2011	Visiting Professor for International Scientists, CAS
2014	Roy-Somiya Award: International Solvothermal and Hydrothermal Assoc.
2015	High-End Foreign Experts Project Award - CAS People's Rep. China
2019	AAAS Fellow
2019	Future Science & Technology Lecturer - Tech. Inst. Physics and Chemistry, CAS
2020	Distinguished Visiting Project Professor - Kyoto University
2023	Fellow of the Royal Society of Chemistry (FRSC)

### Service:

2005-2008	Graduate Chairman, Department of Chemistry, University of Houston
2007-2010	Editorial Advisory Board: Inorganic Chemistry
2008-2013	Associate Editor: Materials Research Bulletin
2008-2020	Russian Science Foundation Reviewer
2008	Guest Editor: Inorganic Chemistry – Functional Inorganic Materials
2012	Guest Editor: Journal of Solid State Chemistry – Polar Inorganic Materials
2013-2017	Editorial Advisory Board: Chemistry of Materials
2013-2015	Peer Review Panel Member - Diamond Light Source UK
2013-present	Associate Editor: Inorganic Chemistry
2014-present	ORNL Neutron Sciences Review Committee
2016	Norwegian Centre of Excellence Reviewer
2016-2018	Beckman Young Investigator Reviewer and Panelist
2017	Irish Research Council Reviewer

2018-2022	Beckman Foundation Executive Committee Member
2018	Vice-Chair: Solid-State Chemistry Gordon Conference
2018-present	Irish Research Council Panelist
2020-present	Associate Editor: ACS Organic & Inorganic Au
2022-present	Graduate Chairman, Department of Chemistry, University of Houston
2022	Chair: Solid-State Chemistry Gordon Conference

**Funding: (\$5.68M Total Raised at UH):**

**• Current: \$1.29M**

- **National Science Foundation:** "Functional Inorganic Materials - New Ultraviolet and Deep-Ultraviolet Nonlinear Optical Materials", 8/1/20 - 7/31/23, \$409,999.
- **Air Force Research Laboratory:** "Inorganic Photoreactive and Ferroelectric Materials", 10/2/2022 - 10/1/2023, \$40,000.
- **Defense Threat Reduction Agency (STTR):** "Rugged Ultrafast Radiation Hard Scintillators for Nuclear Battlefields", 6/1/22 – 5/31/24, \$352,000
- **Welch Foundation:** "New Multiferroic Mixed-Metal Fluorides: Synthesis, Crystal Growth, and Characterization", 6/1/21 - 5/31/24, \$240,000.
- **Army Research Office:** "Collaborative Hierarchical and Agile Responsive Materials (CHARM)", 9/1/21 – 6/14/23, \$250,000

**• Previous: \$4.39M**

- <b>National Science Foundation</b>	3/1/01 – 6/30/18	\$1,471,770
- <b>Welch Foundation</b>	6/1/00 – 5/31/21	\$1,110,000
- <b>DOE-BES (Co-PI: Craig Fennie – Cornell)</b>	9/1/10 – 8/31/14	\$1,032,834
- <b>Beckman Foundation</b>	9/1/02 – 8/31/05	\$240,000
- <b>ACS-PRF (AC)</b>	1/1/08 – 8/31/10	\$125,000
- <b>Air Force Research Laboratory</b>	9/1/18 – 9/30/20	\$158,600
- <b>National Reconnaissance Office</b>	3/1/19 – 11/30/19	\$90,000
- <b>Defense Threat Reduction Agency</b>	3/15/21 – 10/31/21	\$80,000
- <b>Army Research Office</b>	8/1/11 – 4/1/12	\$40,000
- <b>UH Internal</b>	8/1/08 – 7/31/09	\$45,000

**Patents:**

- *"Ferroelectric fluoride compositions and methods of making and using same"* **US Patent No. 8,999,189**; Chang, H.Y. and Halasyamani, P.S., **April 7, 2015**.
- *"Method of producing a monolithic crystal by top-seeded solution growth from a liquid crystal flux comprising a mixture of solid precursors"* **US Patent No. 10,047,456**; Zhang, W., and Halasyamani, P.S., **August 14, 2018**.
- *"A Nonlinear Optical Material and Methods of Fabrication"* **US Patent Nos. 10,113,148, 10,281,796, and 10,409,138**; Yu, H. and Halasyamani, P.S., **September 10, 2019**.

## Publications:

### 252 Peer-Reviewed Publications:

ISI index: h = 66 (> 14,300 citations)

Google Scholar index: h = 71 (> 16,500 citations)

1. Fenghua, D., Griffith, K., Zhang, W., Cai, S., Zhang, C., Wang, Y., Kamp, K., Yu, H., Halasyamani, P.S., Yang, Z., Pan, S., Poeppelmeier, K.R., *NaRb<sub>6</sub>(B<sub>4</sub>O<sub>5</sub>)(OH)<sub>4</sub>(BO<sub>2</sub>) Featuring Noncentrosymmetry, Chirality, and the Linear Anionic Group BO<sub>2</sub>*, J. Am. Chem. Soc., In Press, **2023**.
2. Menezes, L.T., Gage, E., Assoud A., Liang, M., Halasyamani, P.S., Kleinke, H., *Sr<sub>6</sub>Ge<sub>3</sub>OSe: A Rationally Designed Noncentrosymmetric Oxyselenide with Polar [GeOSe<sub>3</sub>] Building Blocks*, Chem. Mater., In Press.
3. King, A., Breton, L., Morrison, G., Smith, M., Liang, M., Halasyamani, P.S., zur Loye, H.-C., *Crystal Structures and Property Measurements of Novel Rare Earth Magnesium Thiosilicates Synthesized via Flux Crystal Growth Utilizing the Boron Chalcogenide Mixture Method*, 62, 7446, Inorg. Chem., **2023**.
4. Liu, H., Wu, H., Hu, Z., Wang, J., Wu, Y., Halasyamani, P.S., Yu, H., *Rb<sub>3</sub>B<sub>11</sub>P<sub>2</sub>O<sub>23</sub>: Materials Design of a New Chemically Benign Deep-Ultraviolet Nonlinear Optical Material*, ACS Materials Letters, 5, 155, **2023**.
5. An Effective Pathway to Design and Synthesize UV Birefringent Crystals via Rational Assemble of  $\pi$ -Conjugated [CO<sub>3</sub>]<sup>2-</sup> and [NO<sub>3</sub>]<sup>-</sup> Triangles, J. Mater. Chem. C, 11, 3325, **2023**.
6. Liang, M., Lacroix, M., Tao, C., Waters, M.J., Rondinelli, J.M., and Halasyamani, P.S., *Noncentrosymmetric gamma-Cs<sub>2</sub>I<sub>4</sub>O<sub>11</sub> Obtained from IO<sub>4</sub> Polyhedral Rearrangements in the Centrosymmetric beta-Phase*, Inorg. Chem., 62, 2942, **2023**.
7. Cassingham, M., Goh, Y., McClure, E., Hodgkins, T., Zhang, W., Liang, M., Dawlaty, J., Djurovich, P., Haiges, R., Halasyamani, P.S. Savory, C., Thompson, M., Melot, B., *Polarizable Anionic Sublattices Can Screen Molecular Dipoles in Non-centrosymmetric Inorganic-Organic Hybrids*, ACS Appl. Mater. and Interfaces., 15, 18006, **2023**.
8. Scott, E.A., Mitoudi Vagourdi, E.M., Johnsson, M., Cascos, V.A., John, F., Pickup, D.M., Chadwick, A.V., Djani, H., Bousquet, E., Zhang, W., Halasyamani, P.S., da Silva, I., McCabe, E.E., *Bi<sub>2</sub>CoO<sub>2</sub>F<sub>4</sub> – a polar, ferrimagnetic Aurivillius oxide-fluoride*, Chem. Mater., 34, 9775, **2022**.
9. Datta, A., Toufanian, R., Zhang, W., Halasyamani, P., Motakef, S., *Low-Cost Radiation-Hard Gallium Oxide Scintillators for High Count Rate Applications*, Optical Materials, 134, 113115, **2022**.
10. Usman, M., Christian, M.S., Morrison, G., Smith, M.D., Zhang, W., Besmann, T.M., Halasyamani, P.S., zur Loye, H.-C., *Flux crystal growth of rubidium-iron silicates and germanates and their ion-exchange using alkali nitrate salts*, Solid State Sci., 132, 106995, **2022**.

11. Fuller, C A., Gutmann, M.J., Ling, C.D., Wang, C.H., Zhang, W., Halasyamani, P.S., Evans, I.R., Evans, J.S.O, *Defects and disorder in apatite-type silicate oxide ion conductors: implications for conductivity*, J. Mater. Chem. A., 10, 14576, **2022**.
12. Novikov, S.A., Lu, Y.M., Zhang, W., Halasyamani, P.S., Hariyani, S., Brgoch, J., Klepov, V.V., zur Loye, H.-C., Mozharivsky, Y, *Phosphorescence in Mn<sup>4+</sup> Doped R<sup>+</sup>/R<sup>2+</sup> Germanates (R<sup>+</sup> = Na<sup>+</sup> or K<sup>+</sup>, R<sup>2+</sup> = Sr<sup>2+</sup>)*, Inorg. Chem., 61, 9364, **2022**
13. Breton, L, Morrison, G., Lacroix, M., Halasyamani, P. S.; Zur Loye, H.-C., *Lanthanide Thioborates, an Emerging Class of Nonlinear Optical Materials, Efficiently Synthesized Using the Boron-Chalcogen Mixture Method*, Chem. Commun., 58, 7992, **2022**.
14. Fuller, C, Murrell, J., Blom, D., Vogt, T., Zhang, W., Halasyamani, P.S., Evans, I., Evans, J., *Oxide ion conductivity, proton conductivity and phase transitions in perovskite-derived Ba<sub>3-x</sub>Sr<sub>x</sub>YGa<sub>2</sub>O<sub>7.5</sub> 0 ≤ x ≤ 3 materials*, Chem. Mater., 34, 3185, **2022**.
15. Barton, A.T., Liang, M.L., Craig, A.J., Zhang, W., Stoyko, S.S., Radzanowski, A.N., Fingerlow, D., Halasyamani, P.S., MacNeil, J.H., Aitken, J.A., *Li<sub>2</sub>Mg<sub>2</sub>Si<sub>2</sub>S<sub>6</sub> and Li<sub>2</sub>Mg<sub>2</sub>Ge<sub>2</sub>S<sub>6</sub>: Two nonlinear optical sulfides featuring a unique, polar trigonal structure incorporating ethane-like anions*, Z. Anorg. Allg. Chem., 15, 648, **2022**.
16. Mallick, S., Zhang, W., Batuk, M., Gibbs, A.S., Hadermann, J., Halasyamani, P.S., Hayward, M.A., *The crystal and defect structures of polar KBiNb<sub>2</sub>O<sub>7</sub>*, Dalton Trans. 51, 1866, **2022**.
17. Mallick, S., Khalsa, G., Kaaret, J.Z., Zhang, W., Batuk, M., Gibbs, A.S., Hadermann, J., Halasyamani, P.S., Benedek, N.A., Hayward, M.A., *The influence of the 6s<sup>2</sup> configuration on Bi<sup>3+</sup> on the structures of A'BiNb<sub>2</sub>O<sub>7</sub> (A' = Rb, Na, Li) layered perovskite oxides*, Dalton Trans., 50, 15359, **2021**.
18. Ding, F., Charles, N., Harada, J., Malliakas, C., Zhang, C., dos Reis, R., Griffith, K., Nisbet, M., Zhang, W., Halasyamani, P. S., Dravid, V., Rondinelli, J., Poeppelmeier, K., *Perovskite-like K<sub>3</sub>TiOF<sub>5</sub> Exhibits (3+1)-Dimensional Commensurate Structure Induced by Octahedrally Coordinated Potassium Ions*, J. Am. Chem. Soc., 143, 18907, **2021**.
19. Ayer, G., Smith, M.D., Jacobsohn, L.G., Morrison, G., Tisdale, H.B., Breton, L., Zhang, W., Halasyamani, P.S., zur Loye, H.-C., *Synthesis of Hydrated Ternary Lanthanide-Containing Chlorides Exhibiting X-ray Scintillation and Luminescence*, Inorg. Chem., 60, 15371, **2021**.
20. Liu, H., Wu, Q., Liu, L., Lin, Z., Halasyamani, P.S., Chen, X., Qin, J., *AgBi(SO<sub>4</sub>)(IO<sub>3</sub>)<sub>2</sub>: Aliovalent Substitution Induces Dimensional Upgrade and Second Harmonic Generation Response Enhancement*, Chem. Commun., 57, 3712, **2021**.
21. Mallick, S., Fortes, A.D., Zhang, W., Halasyamani, P.S., Hayward, M.A., *Switching between Proper and Hybrid-Improper Polar Structures via Cation Substitution in A<sub>2</sub>La(TaTi)O<sub>7</sub> (A = Li, Na)*, Chem. Mater., 33, 2666, **2021**.
22. Zhu, T., Orlandi, F., Manuel, P., Gibbs, A.S., Zhang, W., Halasyamani, P.S., Hayward, M.A., *Directed Synthesis of a Hybrid Improper Magnetolectric Multiferroic Material*, Nat. Commun., 12, 4945, **2021**.

23. Liu, L., Zhang, B., Zhang, W., Halasyamani, P.S., *Pb<sub>2</sub>TiFO(SeO<sub>3</sub>)<sub>2</sub>Br: New Polar Compound with the Strongest Second Harmonic Generation in the Selenite Bromide Family*, J. Mater. C., 9, 6491, **2021**.
24. Li, Y., Wu, Q., Ding, Y., Zhang, J., Cong, Y., Li, X., Halasyamani, P.S., *α-HgBr<sub>2</sub>: A New Stable Phase for Infrared Nonlinear Optical Material with Large Second Harmonic Response and High Laser Damage Threshold*, Science China Materials, 12, 248, **2021**.
25. Sandineni, P., Asl, Y.A., Zhang, W., Halasyamani, P.S., Ghosh, K., Choudhury, A., *Interplay between Oxo and Fluoro in Vanadium Oxyfluorides for Centrosymmetric and Non-Centrosymmetric Structure Formation*, Molecules, 26, 603, **2021**.
26. Cascos, V., Roberts-Watts, J., Skingle, C., Levin, I., Zhang, W., Halasyamani, P.S., Stennett, M., Hyatt, M., Bousquet, E., McCabe, E., *Tuning between proper and hybrid-improper mechanisms for polar behaviour in CsLn<sub>2</sub>Ti<sub>2</sub>NbO<sub>10</sub> Dion-Jacobson phases*, Chem. Mater., 32, 8700, **2020**.
27. Mallick, S., Other, A.N., Gibbs, A.S., Zhang, W., Halasyamani, P.S., Benedek, N.A., Hayward, M.A., *The Polar Structures of KNdNb<sub>2</sub>O<sub>7</sub> and KNdT<sub>a</sub>O<sub>7</sub>*, Chem. Mater., 32, 7965, **2020**.
28. Menezes, L.T., Assoud, A., Zhang, W., Halasyamani, P.S., Kleinke, H., *Effect of Pb Substitution in Sr<sub>2-x</sub>Pb<sub>x</sub>GeSe<sub>4</sub> on Crystal Structures and Non-Linear Optical Properties Predicted by DFT Calculations*, Inorg. Chem., 59, 15028, **2020**.
29. Trujillo-Hernandez, K., Rodriguez-Lopez, G., Espinosa-Roa, A., Gonzalez-Roque, J., Gomora-Figueroa, A.P., Zhang, W., Halasyamani, P.S., Jancik, V., Gembicky, M., Pirruccio, G., Solis-Ibarra, D., *Chirality Control in White-Light Emitting 2D Perovskites*, J. Mater. C, 8, 9602, **2020**.
30. Shankar, R.P.N., Orlandi, F., Manuel, P., Zhang, W., Halasyamani, P.S., Sundaresan, A., *A-Site and B-Site Cation Ordering Induces Polar and Multiferroic Behavior in the Perovskite NaLnNiWO<sub>6</sub> (Ln = Y, Dy, Ho, and Yb)*, Chem. Mater., 32, 5641, **2020**.
31. Parsons, T.G., Hadermann, J., Halasyamani, P.S., Hayward, M.A., *Preparation of noncentrosymmetric ferrimagnetic phase La<sub>0.9</sub>Ba<sub>0.1</sub>Mn<sub>0.96</sub>O<sub>2.43</sub> by topochemical reduction*, J. Solid State Chem., 287, 121356, **2020**.
32. Wu, H., Zhang, B., Yu, H., Zhanggui, H., Wang, J., Wu, Y., Halasyamani, P.S., *Designing Silicates as Deep-UV Nonlinear Optical Materials using Edge-sharing Tetrahedra*, Angew. Chemie, 59, 8922, **2020**.
33. Djani, H., McCabe, E.E., Zhang, W., Halasyamani, P.S., Feteira, A., Bieder, J., Bousquet, E., Ghosez, Ph., *Bi<sub>2</sub>W<sub>2</sub>O<sub>9</sub>: a potentially antiferroelectric Aurivillius phase*, Phys. Rev. B., 101, 134113, **2020**.
34. Usman, M., Kocovski, V., Smith, M., Morrison, G., Zhang, W., Besmann, T., Halasyamani, P. S., zur Loye, H.-C. *Polymorphism and Molten Nitrate Salt-assisted Single Crystal to Single Crystal Ion Exchange in Zeolitic Cesium Ferrogermanate: CsFeGeO<sub>4</sub>*, Inorg. Chem., 59, 9699, **2020**.

35. Flynn, S., Sanghvi, S., Nisbet, M., Griffith, K., Zhang, W., Halasyamani, P.S., Haile, S.M., Poeppelmeier, K.R., *LiIn<sub>2</sub>SbO<sub>6</sub>: A Rutile-Related Structure-type with Ion Transport Pathways*, Chem. Mater., 11, 4785, **2020**.
36. Hancock, J., Nisbet, M., Zhang, W., Halasyamani, P.S., Poeppelmeier, K.R., *Periodic Tendril Perversion and Helices in the AMoO<sub>2</sub>F<sub>3</sub> (A = K, Rb, NH<sub>4</sub>, Tl) Family*, J. Am. Chem. Soc., 142, 6375, **2020**.
37. Shang, M. and Halasyamani, P.S., *Mixed-valent Selenium Compounds: Noncentrosymmetric Cd<sub>3</sub>(SeO<sub>3</sub>)<sub>2</sub>(SeO<sub>4</sub>) and Hg<sub>3</sub>(SeO<sub>3</sub>)<sub>2</sub>(SeO<sub>4</sub>) and Centrosymmetric Pb<sub>2</sub>(SeO<sub>3</sub>)(SeO<sub>4</sub>)*, J. Solid State Chem., 286, 121292, **2020**.
38. Zhou, J., Wu, H., Yu, H., Jiang, S., Hu, S., Wang, J., Wu, Y., Halasyamani, P.S., *BaF<sub>2</sub>TeF<sub>2</sub>(OH)<sub>2</sub>: A UV Nonlinear Optical Fluorotellurite Material Designed by Band-gap Engineering*, J. Am. Chem. Soc., 142, 4616, **2020**.
39. Mitoudi-Vagourdi, E., Zhang, W., Denisova, K., Lemmens, P., Halasyamani, P.S., Johnsson, M., *Synthesis and Characterization of two new SHG active iodates: K<sub>3</sub>Sc(IO<sub>3</sub>)<sub>6</sub> and KSc(IO<sub>3</sub>)<sub>3</sub>Cl*, Submitted, ACS Omega, 5, 5235, **2020**.
40. Xu, J., Wu, H., Zhang, W., Hu, Z., Wu, Y., Yu, H., Halasyamani, P.S., *Li<sub>2</sub>K<sub>4</sub>TiOGe<sub>4</sub>O<sub>12</sub>: A Promising Mid-Infrared Nonlinear Optical Material*, Chem. Mater., 32, 906, **2020**.
41. Ding, F., Zhang, W.-L., Nisbet, M., Zhang, W., Halasyamani, P.S., Yang, Z., Pan, S., Poeppelmeier, K.R., *NaRb<sub>3</sub>B<sub>6</sub>O<sub>9</sub>(OH)<sub>3</sub>(HCO<sub>3</sub>): A Borate-bicarbonate Nonlinear Optical Material*, Inorg. Chem., 59, 759, **2020**.
42. Shang, M. and Halasyamani, P.S., *Mixed Lone-Pair and Mixed Anion Materials: Pb<sub>3</sub>(SeO<sub>3</sub>)(HSeO<sub>3</sub>)Br<sub>3</sub>, Pb<sub>3</sub>(SeO<sub>3</sub>)(OH)Br<sub>3</sub>, CdPb<sub>8</sub>(SeO<sub>3</sub>)<sub>4</sub>Cl<sub>4</sub>Br<sub>6</sub> and RbBi(SeO<sub>3</sub>)F<sub>2</sub>*, J. Solid State Chem., 121121-1, **2020**.
43. Tolman, W., Power, P., Bart, S., Balch, A., Meyer, F., Dehnen, S., Yam, V., Neese, F., Mukherjee, P., Kageyama, H., Sessoli, R., Cossairt, B., Halasyamani, P.S., Morrow, J., Zhou, H.-C., *What IS Inorganic Chemistry?* Inorg. Chem., 58, 9515, **2019**.
44. Jafarzadeh, P., Menezes, L.T., Cui, M., Assoud, A., Zhang, W., Halasyamani, P.S., Kleinke, H., *BaCuSiTe<sub>3</sub>: a new noncentrosymmetric semiconductor with CuTe<sub>4</sub> tetrahedra and ethane-like Si<sub>2</sub>Te<sub>6</sub> units*, Inorg. Chem., 58, 11656, **2019**.
45. Shang, M., Liu, L., and Halasyamani, P.S., *New cadmium-selenium-oxyhalides: Noncentrosymmetric Cd<sub>5</sub>(SeO<sub>3</sub>)<sub>5</sub>Cl<sub>2</sub>(H<sub>2</sub>O) and centrosymmetric Cd<sub>2</sub>(SeO<sub>3</sub>)F<sub>2</sub>, Cd<sub>2</sub>(SeO<sub>3</sub>)(OH)Br*, J. Solid State Chem., 273, 106, **2019**.
46. Li, Y., Zhang, D., Liu, L., Zhang W., Zhang, J., Cong, Y., Li, X., Halasyamani, P.S., *Cs<sub>2</sub>CdV<sub>2</sub>O<sub>6</sub>Cl<sub>2</sub> and Cs<sub>3</sub>CdV<sub>4</sub>O<sub>12</sub>Br: Two New Non-Centrosymmetric Oxyhalides Containing d<sup>0</sup> and d<sup>10</sup> Cations and Exhibiting Second-Harmonic Generation*, Dalton Trans., 48, 10642, **2019**.
47. McNulty, J., Tran, T.T., Halasyamani, P.S., McCartan, S., Maclaren, I., Gibbs, A.S., Lim, F.Y.J., Turner, P.W., Gregg, J.M., Lightfoot, P., and Morrison, F.D., *An Electronically-driven Improper Ferroelectric: Tungsten Bronzes as Microstructure Analogues for the Hexagonal Manganites*, Adv. Mater., 1903620, **2019**.



48. Bhim, A., Zhang, W., Halasyamani, P.S., Gopalakrishnan, J., and Natarajan, S., *New Members of SHG Active Dugganite Family,  $A_3BC_3D_2O_{14}$  ( $A = Ba, Pb$ ;  $B = Te, Sb$ ;  $C = Al, Ga, Fe, Zn$ ;  $D = Si, Ge, P, V$ ): Synthesis, Structure and Materials Properties*, Inorg. Chem., 58, 8560, **2019**.
49. Usman, M., Smith, M.D., Morrison, G., Klepov, V.V., Zhang, W., Halasyamani, P.S., and zur Loye, H.-C., *Molten Alkali Halide Flux Growth of an Extensive Family of Non-Centrosymmetric Rare Earth Sulfides: Structure, Magnetic and Optical (SHG) Properties*, Inorg. Chem., 58, 8541, **2019**.
50. Lin, L., Wu, C., Jiang, X., Lin, Z., Huang, Z., Wei, G., Humphrey, M.G., Halasyamani, P.S., and Zhang, C., *Additive Polarization of  $K_5(W_3O_9F_4)(IO_3)$  Inducing Optimal Combination for a Mid-Infrared Nonlinear Optical Material*, Chem. Mater., 31, 10000, **2019**.
51. Zhu, T., Khalsa, G., Havas, D., Gibbs, A., Zhang, W., Halasyamani, P.S., Benedek, N., Hayward, M., *Cation Exchange as a Mechanism to Engineer Polarity in Layered Perovskites*, Chem. Mater., 30, 8915-8924, **2018**.
52. Liu, H., Zhang, W., Halasyamani, P.S., Stokes, H., Campbell, B., Evans, J., and Evans, I., *Understanding the behavior of the room-temperature molecular ferroelectric 5,6-dichloro-2-methylbenzimidazole using symmetry adapted distortion mode analysis*, J. Am. Chem. Soc., 141, 13441, **2018**.
53. Ding, F., Nisbet, M.L., Zhang, W., Halasyamani, P.S., and Poeppelmeier, K.R., *Why Some Non-centrosymmetric Borates Do Not Make Good Nonlinear Optical Materials - A Case Study with  $K_3B_5O_8(OH)_2$* , Inorg. Chem., 57, 11801, **2018**.
54. Tsujimoto, Y., Juillerat, C.A., Zhang, W., Fujii, K., Yashima, M., Halasyamani, P.S., zur Loye, H.-C., *Function of Tetrahedral  $ZnS_3O$  Building Blocks in the Formation of  $SrZn_2OS_2$ : A Phase Matchable Polar Oxysulfide with a Large Second Harmonic Generation Response*, Chem. Mater., 30, 6486, **2018**.
55. Shanbhag, P.N., Nagesha, C., Rao, R., Tran, T.T., Halasyamani, P.S., and Athinarayanan, S., *High Pressure Synthesis and Magnetic Properties of Corundum-type  $Ga_{1-x}Al_xFeO_3$  ( $x = 0, 0.25, 0.5$ )*, J. Solid State Chem., 265, 79, **2018**.
56. Ding, F., Nisbet, M., Yu, H., Zhang, W., Chai, L., Halasyamani, P.S., and Poeppelmeier, K.R., *Synthesis, Structures and Properties of Noncentrosymmetric Quaternary Tellurates  $BiMTeO_6$  ( $M = Al, Ga$ )*, Inorg. Chem., 57, 7950, **2018**.
57. Halasyamani, P.S. and Rondinelli, J.M., *The must-have and nice-to-have requirements of technologically functional frequency doubling deep-UV crystals*, Nat. Commun., DOI: 0.1038/s41467-018-05411-1, **2018**.
58. Tolman, W. and Halasyamani, P.S., *The Five Stages of Rejection*, Inorg. Chem., 57, 4789, **2018**.
59. Liu, L., Young, J., Smeu, M., and Halasyamani, P.S.,  *$Ba_4B_8TeO_{19}$  - A UV Nonlinear Optical Material*, Inorg. Chem., 57, 4771, **2018**.
60. Yu, H., Koocher, N.Z., Rondinelli, J.M., and Halasyamani, P.S.,  *$Pb_2BO_3I$ : New Borate Iodide with the Largest SHG Response in the  $KBe_2BO_3F_2$  (KBBF) Family*, Angew. Chemie, 57, 5955, **2018**.

61. Halasyamani, P.S. and Zhang, W., *Viewpoint: Inorganic Materials for UV and Deep-UV Nonlinear Optical Applications*, Inorg. Chem., 56, 12077, **2017**.
62. Zhu, T., Cohen, T., Gibbs, A., Zhang W., Halasyamani, P.S., Hayward, M., and Benedek, N., *Theory and Neutrons Combine to Reveal A Family of Layered Perovskites Without Inversion Symmetry*, Chem. Mater., 29, 9489, **2017**.
63. Zhang, W. and Halasyamani, P.S., *Crystal Growth and Optical Properties of a UV Nonlinear Optical Material  $\text{KSrCO}_3\text{F}$* , CrystEngComm, 19, 4742, **2017**.
64. Zhang, R., Gibbs, A. S., Zhang, W., Halasyamani, P.S., and Hayward, M.A., *Structural modification of the cation-ordered Ruddlesden-Popper phase  $\text{YSr}_2\text{Mn}_2\text{O}_7$  by cation exchange and anion insertion*, Inorg. Chem., 56, 9988, **2017**.
65. Ali, S.I., Zhang, W., Halasyamani, P.S., Johnsson, M.,  *$\text{Zn}_3\text{Sb}_4\text{O}_6\text{F}_6$ : Hydrothermal synthesis, Crystal Structure, and Nonlinear Optical Properties*, J. Solid State Chem., 256C, 158, **2017**.
66. Wu, H., Yu, H., Zhang, W., Cantwell, J., Poepelmeier, K.R., Pan, S., and Halasyamani, P.S., *Crystal Growth, Linear and Nonlinear Optical Properties of  $\text{KIO}_3 \cdot \text{Te}(\text{OH})_6$* , Cryst. Growth and Des., 17, 4405, **2017**.
67. Yu, H., Young, J., Wu, H., Zhang, W., Rondinelli, J.M., and Halasyamani, P.S., *The Next Generation of Nonlinear Optical Material  $\text{Rb}_3\text{Ba}_3\text{Li}_2\text{Al}_4\text{B}_6\text{O}_{20}\text{F}$  - Synthesis, Characterization, and Crystal Growth*, Adv. Opt. Mater., 5, 1700840, **2017**.
68. Ghara, S., Suard, E., Francois, F., Tran, T.T., Halasyamani, P.S., Iyo, A., Rodriguez- Carvajal, J., and Sundaresan, A., *Ordered aeschynite-type polar magnets  $\text{RFeWO}_6$  ( $R = \text{Dy}, \text{Eu}, \text{Tb}, \text{and Y}$ ): A new family of type-II multiferroics*, Phys. Rev. B., 95, 224416, **2017**.
69. Wu, H., Yu, H., Pan, S., and Halasyamani, P.S., *A Deep-Ultraviolet NLO Material  $\text{K}_3\text{Sr}_3\text{Li}_2\text{Al}_4\text{B}_6\text{O}_{20}\text{F}$ : Addressing the Structural Instability Problem in  $\text{KBe}_2\text{BO}_3\text{F}_2$* , Inorg. Chem., 56, 8755, **2017**.
70. Zhang, W., Yu, H., Wu, H., and Halasyamani, P.S., *Phase-Matching in Nonlinear Optical Compounds: A Materials Perspective*, Chem. Mater., 29, 2655, **2017**.
71. Yu, H., Young, J., Wu, H., Zhang, W., Rondinelli, J.M., and Halasyamani, P.S.,  *$\text{M}_4\text{Mg}_4(\text{P}_2\text{O}_7)_3$  ( $M = \text{K}, \text{Rb}$ ): Structural Engineering of Pyrophosphates for NLO Applications*, Chem. Mater., 29, 1845, **2017**.
72. Wu, H., Yu, H., Zhang, W., Cantwell, J., Poepelmeier, K.R., Pan, S., and Halasyamani, P.S., *Top-Seeded Solution Crystal Growth, Linear and Nonlinear Optical Properties of  $\text{Ba}_4\text{B}_{11}\text{O}_{20}\text{F}$  (BBOF)*, Cryst. Growth Des., 17, 1404, **2017**.
73. Tran, T.T., Koocher, N.Z., Rondinelli, J.M., and Halasyamani, P.S., *Be-free  $\alpha$ - $\text{Rb}_2\text{Al}_2\text{B}_2\text{O}_7$  ( $\alpha$ -RABO) as a Possible Deep-Ultraviolet Nonlinear Optical Material Replacement for  $\text{KBe}_2\text{BO}_3\text{F}_2$  (KBBF)*, Angew. Chemie, 56, 2969, **2017**.
74. Olchowka, J., Colmont, M., Aliev, A., Tran, T.T., Halasyamani, P.S., Hagemann, H.R., and Mentré, O., *New oxo-centered bismuth oxo-arsenates; Critical effect of  $\text{PO}_4$  for  $\text{AsO}_4$  substitution*, CrystEngComm, 19, 936, **2017**.



75. Tran, T.T., Young, J., Rondinelli, J.M., and Halasyamani, P.S., *Mixed-Metal Carbonate Fluorides as Deep-Ultraviolet Non-linear Optical Materials*, J. Am. Chem. Soc., 139, 1285, **2017**.
76. Abeysinghe, D., Smith, M.D., Yeon, J., Tran, T.T., Halasyamani, P.S., and zur Loye, H.-C., *Crystal Growth and Structure Analysis of  $Ce_{18}W_{10}O_{57}$ : A Complex Oxide Containing Tungsten in an Unusual Trigonal Prismatic Coordination Environment*, Inorg. Chem., 56, 2566, **2017**.
77. Geng, L., Li, Q., Yan, H., Dai, K., and Halasyamani, P.S., *Sb-based Antiferromagnetic Oxychlorides:  $MSb_2O_3(OH)Cl$  ( $M = Mn, Fe, Co$ ) with 2D Spin-Dimer Structures*, Dalton Trans., 45, 18183, **2016**.
78. Khatri, N., Publico-Lansigan, M., Boncher, W., Mertzman, J., Labatete, A., Grande, L., Wunder, D., Prushan, M., Zhang, W., Halasyamani, P.S., de-Bettencourt-Dias, A., and Stoll, S., *Luminescence and NonLinear Optical Properties in Copper (I) Halide Extended Networks*, Inorg. Chem., 55, 11408, **2016**.
79. Cochrane, A.K., Telfer, M., Dixon, C. A. L., Zhang, W., Halasyamani, P.S., Bousquet, E., and Lightfoot, P., *NdBaScO<sub>4</sub>: aristotype of a new family of geometric ferroelectrics*, Chem. Commun., 52, 10980, **2016**.
80. Tran, T.T., Yu, H., Rondinelli, J.R., Poeppelmeier, K.R., and Halasyamani, P.S., *Deep Ultraviolet Nonlinear Optical Materials*, Chem. Mater., 28, 5238, **2016**.
81. Zhang, R., Abbet, B.M., Read, G., Lang, F., Lancaster, T., Tran, T.T., Halasyamani, P.S., Blundell, S.J., Benedek, N.A., and Hayward, M.A.,  *$La_2SrCr_2O_7$ : Controlling the tilting distortions of  $n = 2$  Ruddlesden-Popper phases through A-site cation order*, Inorg. Chem., 55, 8951, **2016**.
82. Zhang, W., Yu, H., Wu, H., and Halasyamani, P.S., *Crystal Growth and associated properties of a nonlinear optical crystal -  $Ba_2Zn(BO_3)_2$* , Crystals, 6, 68, **2016**.
83. Zhang, W., Yu, H., Cantwell, J., Wu, H., Poeppelmeier, K.R., and Halasyamani, P.S.,  *$LiNa_5Mo_9O_{30}$ : Crystal Growth, Linear and Non-linear Optical Properties*, Chem. Mater., 28, 4483, **2016**.
84. Yu, H., Cantwell, J., Wu, H., Zhang, W., Poeppelmeier, K.R., and Halasyamani, P.S., *Top-Seeded Solution Crystal Growth, Morphology, Optical and Thermal Properties of  $Ba_3(ZnB_5O_{10})PO_4$  (BZBP)*, Cryst. Growth Des., 16, 3976, **2016**.
85. Yu, H., Young, J., Wu, H., Zhang, W., Rondinelli, J.M., and Halasyamani, P.S., *Electronic, Crystal Chemistry, and Nonlinear Optical Property Relationships in the Dugganite  $A_3B_3CD_2O_{14}$  Family ( $A = Sr, Ba$  or  $Pb$ ;  $B = Mg$  or  $Zn$ ;  $C = Te$  or  $W$ , and  $D = P$  or  $V$ )*, J. Am. Chem. Soc., 138, 4984, **2016**.
86. Kim, H.G., Tran, T.T., Choi, W., You, T.-S., Halasyamani, P.S., and Ok, K.M., *Two New Noncentrosymmetric (NCS)  $n = 3$  Layered Dion-Jacobson (DJ) Perovskites: Polar  $RbBi_2Ti_2NbO_{10}$  and Nonpolar  $CsBi_2Ti_2TaO_{10}$* , Chem. Mater., 28, 2424, **2016**.
87. Morrison, G., Tran, T.T., Halasyamani, P.S., and zur Loye, H.-C.,  *$K_8(K_5F)U_6Si_8O_{40}$ : The First Intergrowth Uranyl Silicate*, Inorg. Chem., 55, 3215, **2016**.
88. Zhang, W. and Halasyamani, P.S., *Top-seeded solution crystal growth of Noncentrosymmetric and Polar  $Zn_2TeMoO_7$  (ZTM)*, J. Solid State Chem., 236, 32, **2016**.

89. Yu, H., Zhang, W., and Halasyamani, P.S., *Large Birefringent Materials: Na<sub>6</sub>Te<sub>4</sub>W<sub>6</sub>O<sub>29</sub> and Na<sub>2</sub>TeW<sub>2</sub>O<sub>9</sub> - Synthesis, structure, crystal growth, and characterization*, Cryst. Growth Des., 16, 1081, **2016**.
90. Yaghoobnejad A. H., Morris, R., Tran, T. T., Halasyamani, P.S., Ghosh, K., and Choudhury, A., *A Cubic Non-centrosymmetric Mixed-valence Iron Borophosphate-Phosphite*, Cryst. Growth Des., 16, 1187, **2016**.
91. Yu, H., Zhang, W., Young, J., Rondinelli, J.M., and Halasyamani, P.S., *Bidenticity Enhanced Second Harmonic Generation from Pb-Chelation in Pb<sub>3</sub>Mg<sub>3</sub>TeP<sub>2</sub>O<sub>14</sub>*, J. Am. Chem. Soc., 138, 88, **2016**.
92. McCabe, E.E., Bousquet, E., Stockdale, C.P.J., Deacon, C.A., Tran, T.T., Halasyamani, P.S., Stennett, M.C., Hyatt, N.C., *Synthesis, structure and properties of CsBi<sub>2</sub>Ti<sub>2</sub>NbO<sub>10</sub>: A new layered perovskite proper ferroelectric*, Chem. Mater., 27, 8298, **2015**.
93. Yu, H., Zhang, W., Young, J., Rondinelli, J.M., and Halasyamani, P.S., *Design and Synthesis of the Beryllium-Free Deep-Ultraviolet Nonlinear Optical Material Ba<sub>3</sub>(ZnB<sub>5</sub>O<sub>10</sub>)PO<sub>4</sub>*, Adv. Mater., 27, 7380, **2015**.
94. Bohem, M. E., Pook, N.-P., Adam, A., Tran, T. T., Halasyamani, P.S., Entenmann, M., Schleid, T., *Luminescence and Scintillation Properties of La<sub>2</sub>[Si<sub>2</sub>O<sub>7</sub>]:Ce<sup>3+</sup> functional pigment - A concept for UV-protection coatings*, Dyes and Pigments, 123, 331, **2015**.
95. Tran, T.T., He, J., Rondinelli, J.M., and Halasyamani, P.S., *RbMgCO<sub>3</sub>F - A New Deep-Ultraviolet Nonlinear Optical Material*, J. Am. Chem. Soc., 137, 10504, **2015**.
96. Gerke, B., Tran, T. T., Pottgen, R., and Halasyamani, P.S., *<sup>119</sup>Sn Mossbauer Spectroscopy of Solvothermally Synthesized Fluorides ASnF<sub>3</sub> (A = Na, K, Rb, Cs)*, Z. Naturforsch., 70, 765, **2015**.
97. Latshaw, A.M., Wilkins, B.O., Hughey, K.D., Yeon, J., Williams, D.E., Tran, T.T., Halasyamani, P.S., and zur Loye, H.-C., *A<sub>5</sub>RE<sub>4</sub>X[TO<sub>4</sub>]<sub>4</sub> Crystal Growth and Photoluminescence. Part 2. Fluoride Flux Synthesis of Sodium and Potassium Rare Earth Silicate Oxyfluorides*, CrystEngComm, 17, 4654, **2015**.
98. Kim, S.W., Zhang, R., Halasyamani, P.S., and Hayward, M.A., *K<sub>4</sub>Fe<sub>3</sub>F<sub>12</sub>: An Fe<sup>2+</sup>/Fe<sup>3+</sup> charge-ordered, ferrimagnetic fluoride with a cation-deficient, layered perovskite structure*, Inorg. Chem., 54, 6647, **2015**.
99. Morrison, G., Smith, M.D., Tran, T.T., Halasyamani, P.S., and zur Loye, H.-C., *Synthesis and Structure of a New Pentanary Uranium (VI) Silicate: K<sub>4</sub>CaUSi<sub>4</sub>O<sub>14</sub>*, CrystEngComm, 17, 4218, **2015**.
100. Yu, H., Wu, H., Jing, Q., Yang, Z. Halasyamani, P. S., and Pan, S., *Polar Polymorphism: α-, β- and α-Pb<sub>2</sub>Ba<sub>4</sub>Zn<sub>4</sub>B<sub>14</sub>O<sub>31</sub> - Synthesis, Characterization, and Nonlinear Optical Properties*, Chem. Mater., 27, 4779, **2015**.
101. Cortese, A., Wilkins, B., Smith, M., Yeon, J., Morrison, G., Tran, T.T., Halasyamani, P.S., and zur Loye, H.-C., *Crystal Growth of Four Oxovanadium(IV) Tartrates Prepared via a Mild Two Step Hydrothermal Method: Observation of Spin Dimer Behavior and Second Harmonic Generation*, Inorg. Chem., 54, 4011, **2015**.

102. Kim, Y.H, Tran, T.T., Halasyamani, P.S., and Ok, K.M., *Macroscopic polarity control with alkali metal cation size and coordination environment in a series of tin iodates*, Inorg. Chem. Frontiers, 2, 361, **2015**.
103. Mandal, P., Manjob-Sanz, A., Corkett, A.J., Comyn, T.P., Dawson, K., Stevenson, T., Bennett, J., Henrichs, L.F., Bell, A.J., Nishibori, E., Takata, M., Zanella, M., Dolgos, M.R., Adem, U., Wan, X., Pitcher, M.J., Romani, S., Tran, T.T., Halasyamani, P.S., Claridge, J.B., and Rosseinsky, M.J., *Morphotropic Phase Boundary in the Pb-Free (1-x)BiTi<sub>3/8</sub>Fe<sub>2/8</sub>Mg<sub>3/8</sub>O<sub>3</sub> - xCaTiO<sub>3</sub> System: Tetragonal Polarization and Enhanced Electromechanical Properties*, Adv. Mater., 27, 2883, **2015**.
104. Donakowski, M.D., Gautier, R., Lu, H., Tran, T.T., Cantwell, J., Halasyamani, P.S., and Poeppelmeier, K.R., *Synthesis of Two Vanadium Oxide-Fluoride Materials that Differ in Phase Matchability*, Inorg. Chem., 54, 765, **2015**.
105. Cammarata, A., Zhang, W., Halasyamani, P.S., Rondinelli, J.M., *Microscopic Origins of Optical Second Harmonic Generation in Noncentrosymmetric-Nonpolar Materials*, Chem. Mater., 26, 5773, **2014**.
106. Patino, M.A., Smith, M., Zhang, W., Halasyamani, P.S., and Hayward, M.A., *Cation Exchange in a 3D Perovskite - Synthesis of Ni<sub>0.5</sub>TaO<sub>3</sub>*, Inorg. Chem., 53, 8020, **2014**.
107. Tran, T.T., Halasyamani, P.S., and Rondinelli, J., *Role of Acentric Displacements on the Crystal Structure and Second-Harmonic Generating Properties of RbPbCO<sub>3</sub>F and CsPbCO<sub>3</sub>F*, Inorg. Chem., 53, 6241, **2014**.
108. Greenblatt, M., Retuerto, M., Li, M., Ignatov, A., Croft, M., Hodges, J., Tran, T.T. and Halasyamani, P.S., *Crystallographic and magnetic properties of Pb<sub>2-x</sub>Bi<sub>x</sub>Ir<sub>2</sub>O<sub>7-d</sub>*, Mater. Res. Express, 1, 046304/1, **2014**.
109. Thao, T.T. and Halasyamani, P.S., *Synthesis and Characterization of ASnF<sub>3</sub> (A = Na<sup>+</sup>, K<sup>+</sup>, Cs<sup>+</sup>)*, J. Solid State Chem., 210, 213, **2014**.
110. Aliev, A., Endara, D., Huve, M., Colmont, M., Roussel, P., Tran, T. T., Halasyamani, P.S., and Mentre, O., *Labile degree of disorder in Bismuth-oxyphosphates compounds: illustration through three new structural types*, Inorg. Chem., 53, 861, **2014**.
111. Holland, M, Donakowski, M.D., Pozzi, E.A., Rasmussen, A.M., Tran, T.T., Pease-Dodson, S.E., Halasyamani, P.S., Seideman, T., Van Duyne, R.P., Poeppelmeier, K.R., *Polar Alignment of Lambda-Shaped Basic Building Units within Transition Metal Oxide Fluoride Materials*, Inorg. Chem., 53, 221, **2014**.
112. Luo, K., Tran, T.T., Halasyamani, P.S., and Hayward, M.A., *Synthesis and Selective Topochemical Fluorination of the cation and anion-vacancy ordered phases Ba<sub>2</sub>YCoO<sub>5</sub> and Ba<sub>3</sub>YCo<sub>2</sub>O<sub>7.5</sub>*, Inorg. Chem., 52, 13762, **2013**.
113. Pachoud, E., Zhang, W., Tapp, J., Liang, K.-C., Lorenz, B., Chu, C.W., and Halasyamani, P.S., *Single Crystal Growth, Structure, and Physical Properties of LiCrP<sub>2</sub>O<sub>7</sub>*, Cryst. Growth Des., 13, 5473, **2013**.

114. Yeon, J., Smith, M.D., Sefat, A.S., Tran, T.T., Halasyamani, P.S., zur Loye, H.C., *U<sub>3</sub>F<sub>12</sub>(H<sub>2</sub>O), a Non-Centrosymmetric Uranium Fluoride Prepared via a Convenient In-Situ Route that Creates of U<sup>4+</sup> Cations under Mild Hydrothermal Conditions*, Inorg. Chem., 52, 8303, **2013**.
115. Retuerto, M., Li, M.R., Go, Y.B., Ignatov, A., Croft, M., Ramanujachary, K.V., Herber, R.H., Nowik, I., Hodges, J.P., Dachraui, W., Hadermann, J., Van Tendeloo, G., Tran, T.T., Halasyamani, P.S., Greenblatt, M., *Polar and magnetic layered A-Site and rock salt B-Site Ordering NaLnFeWO<sub>6</sub> (Ln = La, Nd) perovskites*, Inorg. Chem, 52, 12482, **2013**.
116. Reger, D.L., Leitner, A., Smith, M.D., Tran, T.T., and Halasyamani, P.S., *Homochiral Helical Metal-Organic Frameworks of Group 1 Metals using Enantiopure Ligands Containing a 1,8-Naphthalimide Group*, Inorg. Chem., 52, 10041, **2013**.
117. Lu, H., Gautier, R., Donakowski, M., Tran, T. T., Edwards, B., Nino, J., Halasyamani, P.S., Liu, Z., Poeppelmeier, K.R., *Non-Linear Active Materials: An Illustration of Controllable Phase Matchability*, J. Am. Chem. Soc., 135, 11942, **2013**.
118. Li, M.-R, Walker, D., Retuerto, M., Sarkar, T., Hadermann, J. Stephens, P.W., Croft, M., Ignatov, A., Hemberger, J., Nowik, I., Halasyamani, P.S., Tran, T.T., Mukherjee, S., Dasgupta, T.S., Greenblatt, M., *Polar Mn<sub>2</sub>FeMO<sub>6</sub> (M = Nb, Ta) with LiNbO<sub>3</sub>-type Structure - High Pressure Synthesis*, Angew. Chemie, 52, 8406, **2013**.
119. Yeon, J., Sefat, A.A., Tran, T.T., Halasyamani, P.S., zur Loye, H.-C., *Crystal Growth, Structure, Polarization and Magnetic Properties of Cesium Vanadate, Cs<sub>2</sub>V<sub>3</sub>O<sub>8</sub>: A Structure-Property Study*, Inorg. Chem., 52, 6179, **2013**.
120. Luo, K., Johnson, R.D., Tran, T.T., Halasyamani, P.S., Radaelli, P.G., and Hayward, M.A., *Ba<sub>2</sub>YFeO<sub>5.5</sub> – A Ferromagnetic Pyroelectric Phase Prepared by Topochemical Oxidation*, Chem. Mater., 25, 1800, **2013**.
121. Lee, E.P., Lee, D.W., Cho, Y.-H., Tran, T.T., Halasyamani, P.S., and Ok, K.M., *Large scale synthesis, second-harmonic generation, and piezoelectric properties of a noncentrosymmetric vanadium phosphate, Li<sub>2</sub>VPO<sub>6</sub>*, J. Solid State Chem., 202, 22, **2013**.
122. Halasyamani, P.S., *Chemistry of Polar Transition Metal Oxides*, In: Comprehensive Inorganic Chemistry II, Vol. 2., Eds. Jan Reedijk and Kenneth R. Poeppelmeier, Oxford, Elsevier Press, 41-61, **2013**.
123. Nguyen, S. D. and Halasyamani, P.S., *Synthesis, Structure, and Characterization of Two New Polar Sodium Tungsten Selenites: Na<sub>2</sub>(WO<sub>3</sub>)<sub>3</sub>(SeO<sub>3</sub>) · 2H<sub>2</sub>O and Na<sub>6</sub>(W<sub>6</sub>O<sub>19</sub>)(SeO<sub>3</sub>)<sub>2</sub>*, Inorg. Chem., 52, 2637-2647, **2013**.
124. Tran, T.T. and Halasyamani, P.S., *New Fluoride Carbonates: Centrosymmetric KPb<sub>2</sub>(CO<sub>3</sub>)<sub>2</sub>F and Noncentrosymmetric K<sub>2.70</sub>Pb<sub>5.15</sub>(CO<sub>3</sub>)<sub>5</sub>F<sub>3</sub>*, Inorg. Chem., 52, 2466, **2013**.
125. Andriyevsky, B., Yeon, J., Halasyamani, P.S., Pilz, T., Doll, K., and Jansen, M., *DFT- based ab-initio study of dielectric and optical properties of bulk Li<sub>2</sub>B<sub>3</sub>O<sub>4</sub>F<sub>3</sub> and Li<sub>2</sub>B<sub>6</sub>O<sub>9</sub>F<sub>2</sub>*, J. Phys. Chem. Solids, 74, 617, **2013**.
126. Olshansky, J.H., Tran, T.T., Zeller, M, Halasyamani, P.S., Schrier, J., and Norquist, A.J., *The role of hydrogen-bonding in the formation of polar achiral and nonpolar chiral vanadium selenite frameworks*, Inorg. Chem., 20, 11040, **2012**.

127. Oh, S.-J., Shin, Y., Tran, T.T., Lee, D.W., Yoon, A., Halasyamani, P.S., and Ok, K. M., *Structure-Property Relationships in Solid Solutions of Noncentrosymmetric Aurivillius Phases, Bi<sub>4-x</sub>La<sub>x</sub>Ti<sub>3</sub>O<sub>12</sub> (x = 0-0.75)*, Inorg. Chem., 51, 10402, **2012**.
128. Halasyamani, P.S., Preface to Special Issue - *Polar Inorganic Materials: Opportunities and Challenges*, J. Solid State Chem., 195, 1, **2012**.
129. Nguyen, S.D. and Halasyamani, P.S., *Synthesis, Structures, and Characterization of New Noncentrosymmetric and Polar Li<sub>6</sub>(Mo<sub>2</sub>O<sub>5</sub>)<sub>3</sub>(SeO<sub>3</sub>) and Centrosymmetric Li<sub>2</sub>(MO<sub>3</sub>)(TeO<sub>3</sub>) (M = Mo<sup>6+</sup> or W<sup>6+</sup>)*, Inorg. Chem., 51, 9529, **2012**.
130. Zhang, W. and Halasyamani, P.S., *Top-seeded solution crystal growth of Noncentrosymmetric and Polar K<sub>3</sub>V<sub>5</sub>O<sub>14</sub>*, CrystEngComm., 14, 6839, **2012**.
131. Liang, K.-C., Zhang, W., Lorenz, B., Sun, Y.Y., Halasyamani, P.S., and Chu, C.W., *Weak ferromagnetism and internal magnetoelectric effect in multiferroic LiFeP<sub>2</sub>O<sub>7</sub>*, Phys. Rev. B., 86,094414-1, **2012**.
132. Dolgos, M., Adem, U., Manjob-Sanz, A., Wan, X., Comyn, T., Stephenson, T., Bennet, J., Bell, A.J., Tran, T.T., Halasyamani, P.S., Claridge, J.B., and Rosseinsky, M.J., *Perovskite B site compositional control of [110]p polar displacement coupling in an ambient pressure stable Bi-based ferroelectric*, Angew. Chemie Int. Ed., 51, 10770, **2012**.
133. Inaguma, Y., Sakuari, D., Aimi, A., Yoshida, M., Tetsuhiro, K., Mori, D., Yeon, J., and Halasyamani, P.S., *Dielectric properties of a polar ZnSnO<sub>3</sub> with LiNbO<sub>3</sub>-type structure*, J. Solid State Chem., 195, 115, **2012**.
134. Yeon, J., Kim, S.-H., Green, M.A., Bhatti, K.P., Leighton, C., and Halasyamani, P.S., *Syntheses, Crystal Structures, and Characterization of Two New Tl<sup>+</sup>-Cu<sup>2+</sup>-Te<sup>6+</sup> Oxides: Tl<sub>4</sub>CuTeO<sub>6</sub> and Tl<sub>6</sub>CuTe<sub>2</sub>O<sub>10</sub>*, J. Solid State Chem., 196, 607, **2012**.
135. Zhang, W. and Halasyamani, P.S. *Top-Seeded Solution Crystal Growth and Functional Properties of Polar LiFeP<sub>2</sub>O<sub>7</sub>*, Crystal Growth and Design, 12, 2127, **2012**.
136. Smith, M.D., Blau, S.M., Chang, K.B., Tran, T.T., Zeller, M., Halasyamani, P.S., Schrier, J., and Norquist, A.J., *Inducting polarity in [VO<sub>3</sub>]<sub>n</sub><sup>n-</sup> chain compounds using asymmetric hydrogen bonding networks*, J. Solid State Chem., 195, 86, **2012**.
137. Donakowski, M., Gautier, R., Yeon, J., Moore, D., Nino, J., Halasyamani, P.S., and Poeppelmeier, K.R., *The Role of Polar, Lambda (Λ)-Shaped Building Units in Noncentrosymmetric Inorganic Structures*, J. Am. Chem. Soc., 134, 7679, **2012**.
138. Wibowo, A. C., Smith, M. D., Yeon, J., Halasyamani, P. S., and zur Loye, H.-C., *Novel 3D Bismuth-Based Coordination Polymers: Synthesis, Structure, and Second Harmonic Generating Properties*, J. Solid State Chem., 195, 94, **2012**.
139. Yeon, J., Kim, S.-H., Nguyen, S.D., Lee, H., and Halasyamani, P.S., *Two New Noncentrosymmetric (NCS) Polar Oxides: Syntheses, Characterization, and Structure-Property Relationships in BaMTe<sub>2</sub>O<sub>7</sub> (M = Mg<sup>2+</sup> or Zn<sup>2+</sup>)*, Inorg. Chem., 51, 2662, **2012**.

140. Queen, W. L., West, J. P., Hwu, S.-J., Tran, T.T., Halasyamani, P.S., and VanDerveer, D., *Symmetry preservation in a new noncentrosymmetric lattice comprised of acentric POM clusters residing in bowls of Cs<sup>+</sup>-based half SOD-cage*, Chem. Commun., 48, 1665, **2012**.
141. Kim, S. W., Kim, S.-H., Halasyamani, P. S., Green, M. A., Bhatti, K. P., Leighton, C., Das, H., and Fennie, C., *RbFe<sup>2+</sup>Fe<sup>3+</sup>F<sub>6</sub>: Synthesis, Structure, and Characterization of New Charge-Ordered Pyrochlore-Related Magnetically Frustrated Mixed-Metal Fluoride*, Chem. Sci., 3, 741, **2012**.
142. Yeon, J., Kim, S.-H., Nguyen, S., Lee, H., Halasyamani, P. S., *New Vanadium Selenites: Centrosymmetric Ca<sub>2</sub>(VO<sub>2</sub>)<sub>2</sub>(SeO<sub>3</sub>)<sub>3</sub>(H<sub>2</sub>O)<sub>2</sub>, Sr<sub>2</sub>(VO<sub>2</sub>)<sub>2</sub>(SeO<sub>3</sub>)<sub>3</sub>, and Ba(V<sub>2</sub>O<sub>5</sub>)(SeO<sub>3</sub>), and Noncentrosymmetric and Polar A<sub>4</sub>(VO<sub>2</sub>)<sub>2</sub>(SeO<sub>3</sub>)<sub>4</sub>(Se<sub>2</sub>O<sub>5</sub>) (A = Sr<sup>2+</sup> or Pb<sup>2+</sup>)*, Inorg. Chem., 51, 609, **2012**.
143. Nguyen, S. D., Yeon, J., Kim, S.-H., and Halasyamani, P. S., *BiO(IO<sub>3</sub>): A New Polar Oxide Material, with a Large SHG Response, that contains Two Lone-pair Cations and Exhibits an Aurivillius-type (Bi<sub>2</sub>O<sub>2</sub>)<sup>2+</sup> Layer*, J. Am. Chem. Soc., 133, 12422, **2011**.
144. Yeon, J., Kim, S.-H., Hayward, M. A., and Halasyamani, P. S., *'A' Cation Polarity Control in ACuTe<sub>2</sub>O<sub>7</sub> (A = Sr<sup>2+</sup>, Ba<sup>2+</sup>, and Pb<sup>2+</sup>)*, Inorg. Chem., 50, 8663, **2011**.
145. Zhang, W., Halasyamani, P.S., Gao, Z., Wang, S., Jian, W., and Tao, X., *Anisotropic Thermal Properties of the Nonlinear Optical and Polar Oxide Material Na<sub>2</sub>TeW<sub>2</sub>O<sub>9</sub>*, Crystal Growth and Design, 11, 3636, **2011**.
146. Zhu, T., Qin, J., and Halasyamani, P.S., *Synthesis and Structure of A<sub>4</sub>V<sub>6</sub>[Te<sup>4+</sup>Te<sup>6+</sup>]O<sub>24</sub> (A = K, Rb) – The First Two Examples of Mixed-Valent Tellurium Oxides with Vanadium(V)*, Dalton Trans., 40, 8527, **2011**.
147. Friese, K., Halasyamani, P.S., Tolkiehn, M., and Grzechnik, A., *A high pressure single-crystal synchrotron diffraction study on NH<sub>4</sub>RbTe<sub>4</sub>O<sub>9</sub> x 2H<sub>2</sub>O – Stability of three different Te-O coordination polyhedral at high pressures*, Acta Cryst. C., C67, i45, **2011**.
148. Halasyamani, P.S., Clarke, S.J., Mandrus, D.G., and Choi, K.-S., Eds., *'Solid State Chemistry of Inorganic Materials VIII'*, MRS Symposium Proceedings, Vol. 1309, 2010 MRS Fall Meeting, **2011**.
149. Nguyen, S.D., Kim, S.-H., and Halasyamani, P.S., *Synthesis, Characterization, and Structure-Property Relationships in Two New Polar Oxides: Zn<sub>2</sub>(MoO<sub>4</sub>)(SeO<sub>3</sub>) and Zn<sub>2</sub>(MoO<sub>4</sub>)(TeO<sub>3</sub>)*, Inorg. Chem., 50, 5215, **2011**.
150. Lee, D. W., Oh, S.-J., Halasyamani, P. S., and Ok, K. M., *New Quaternary Tellurite and Selenite: Synthesis, Structure, and Characterization of Centrosymmetric InVTe<sub>2</sub>O<sub>8</sub> and Noncentrosymmetric InVSe<sub>2</sub>O<sub>8</sub>*, Inorg. Chem., 50, 4473, **2011**.
151. Glor, E.C., Blau, S.M., Yeon, J., Zeller, M., Halasyamani, P.S., Schrier, J., and Norquist, A.J., *[R-C<sub>7</sub>H<sub>16</sub>N<sub>2</sub>][V<sub>2</sub>Te<sub>2</sub>O<sub>10</sub>] and [S-C<sub>7</sub>H<sub>16</sub>N<sub>2</sub>][V<sub>2</sub>Te<sub>2</sub>O<sub>10</sub>]; two new polar templated vanadium tellurites*, J. Solid State Chem., 184, 1445, **2011**.
152. Yeon, J., Kim, S.-H., and Halasyamani, P.S., *Crystal Structure of a New Quinary Oxide: NaTl<sub>3</sub>Cu<sub>4</sub>Te<sub>2</sub>O<sub>12</sub>*, J. Chem. Cryst., 41, 328, **2011**.

153. Zhu, T., Chang, H.Y., and Halasyamani, P.S., *Crystal Growth and Structures of New Niobium and Tantalum Oxides: Sr<sub>3</sub>LiNbO<sub>6</sub> and Sr<sub>3</sub>LiTaO<sub>6</sub>*, J. Chem. Cryst., 41, 1195, **2011**.
154. Kim, S.-W., Chang, H.Y., and Halasyamani, P.S., *Selective Pure-Phase Synthesis of the Multi-Ferroic BaMF<sub>4</sub> (M = Mg, Mn, Co, Ni, and Zn) Family*, J. Am. Chem. Soc., 132, 17684, **2010**.
155. Kim, S.-H., Yeon, J., Sefat, A.S., Mandrus, D., and Halasyamani, P.S., *Stereo-active Lone-Pair Control on the Ferromagnetic Behavior in VO(SeO<sub>2</sub>OH)<sub>2</sub> – A New Acentric Ferromagnetic Material*, Chem. Mater., 22, 6665, **2010**.
156. Turp, S.A., Hargreaves, J., Baek, J., Halasyamani, P.S., and Hayward, M.A., *Noncentrosymmetric Cation Order in the Cubic Perovskite Ba<sub>4</sub>CaFe<sub>3</sub>O<sub>9.5</sub>*, Chem. Mater., 22, 5580, **2010**.
157. Kim, S.-H., Melot, B.C., Seshadri, R., Green, M.A., Sefat, A.S., Mandrus, D., and Halasyamani, P.S., *An Experimental and Computational Investigation of the Polar Ferrimagnet VOSe<sub>2</sub>O<sub>5</sub>*, Chem. Mater., 22, 5074, **2010**.
158. Zhang, W., Li, F., Kim, S.-H., and Halasyamani, P.S., *Top-Seeded Solution Crystal Growth and Functional Properties of Na<sub>2</sub>TeW<sub>2</sub>O<sub>9</sub>: A Novel Polar Material*, Crystal Growth and Design, 10, 4091, **2010**.
159. Yang, T., Sun, J., Yeon, J., Halasyamani, P.S., Huang, S., Hemberger, J., and Greenblatt, M., *Cd<sub>1-x</sub>Bi<sub>x</sub>(Cd<sub>1+x</sub>In<sub>1-x</sub>)VO<sub>6</sub> (0 ≤ x ≤ 0.14): A New Polar Structure with Second-Harmonic Generation*, Chem. Mater., 22, 4814, **2010**.
160. Grzechnik, A., Halasyamani, P.S., Kim, J.-H., and Friese, K., *Crystal structure of (NH<sub>4</sub>)<sub>2</sub>WTe<sub>2</sub>O<sub>8</sub> at 5.09 GPa*, Acta Cryst., C66, i79, **2010**.
161. Yeon, J., Kim, S.-H., and Halasyamani, P.S., *A<sub>3</sub>V<sub>5</sub>O<sub>14</sub> (A = K<sup>+</sup>, Rb<sup>+</sup>, or Tl<sup>+</sup>): New Polar Oxides with a Tetragonal Tungsten Bronze Related Structural Topology – Synthesis, Structure, and Functional Properties*, Inorg. Chem., 49, 6986, **2010**.
162. Kim, M.K., Kim, S.-H., Chang, H.-Y., Halasyamani, P.S., and Ok, K.M., *New Noncentrosymmetric Tellurite Phosphate Material: Synthesis, Characterization, and Calculations of Te<sub>2</sub>O(PO<sub>4</sub>)<sub>2</sub>*, Inorg. Chem., 49, 7028, **2010**.
163. Chang, H.Y., Kim, S.-H., and Halasyamani, P.S., *Polar Hexagonal Tungsten Oxide (HTO) Materials I. Synthesis, Characterization, Functional Properties and Structure-Property Relationships in A<sub>2</sub>(MoO<sub>3</sub>)<sub>3</sub>(SeO<sub>3</sub>) (A = Rb<sup>+</sup> and Tl<sup>+</sup>) 2. Classification, structural distortions, and second-harmonic generating properties of known polar HTO's*, Chem. Mater., 22, 3241, **2010**.
164. Halasyamani, P.S., “Non-centrosymmetric Inorganic Oxide Materials: Synthetic Strategies and Characterization Techniques” in *Functional Oxide Materials*, eds. Bruce, D. W., O’Hare, D., and Walton, R. I., John Wiley & Sons, **2010**.
165. Choyke, S., Blau, S., Larner, A., Sarjeant, A., Yeon, J., Halasyamani, P. S., Norquist, A., *Noncentrosymmetry in new templated gallium fluorophosphates*, Inorg. Chem., 48, 11277, **2009**.



166. Kim, S.-H., Yeon, J., and Halasyamani, P.S., *A Noncentrosymmetric Polar Oxide Material, Pb<sub>3</sub>SeO<sub>5</sub>: Synthesis, Characterization, Electronic Structure Calculations, and Structure-Property Relationships*, Chem. Mater., 21, 5335-5342, **2009**.
167. Yeon, J., Kim, S.-H., and Halasyamani, P.S., *New Thallium Iodates - Synthesis, Characterization, and Calculations of Tl(IO<sub>3</sub>)<sub>3</sub> and Tl<sub>4</sub>(IO<sub>3</sub>)<sub>6</sub>, [Tl<sup>+</sup><sub>3</sub>Tl<sup>3+</sup>(IO<sub>3</sub>)<sub>6</sub>]*, J. Solid State Chem., 182, 3269, **2009**.
168. Claridge, J., Hughes, H., Bridges, C., Allix, M., Suchomel, M., Niu, H., Kuang, X., Rosseinsky, M., Bellido, N., Pérez O., Grebille D., Simon C., Pelloquin D., Blundell, S., Lancaster T., Baker P., Pratt F., and Halasyamani, P.S., *Frustration of magnetic and ferroelectric long-range order*, J. Am. Chem. Soc., 131, 14000, **2009**.
169. Choi, M.-H, Kim, S.-H., Chang, H.-Y., Halasyamani, P.S., and Ok, K.M., *Polar Chains with Aligned ZnCl<sub>4</sub> Tetrahedra: Hydrothermal Synthesis, Structure, Characterization, Calculations, and Non-centrosymmetric Properties of [N(CH<sub>3</sub>)<sub>4</sub>]ZnCl<sub>3</sub>*, Inorg. Chem., 48, 8376, **2009**.
170. Leske, J.W., Moreau, M.A., McNerny, K.L., Yeon, J., Halasyamani, P.S., and Aitken, J.A., *Second Harmonic Generation and Crystal Structure of the Diamond-Like Semiconductors, Li<sub>2</sub>CsGeS<sub>4</sub> and Li<sub>2</sub>CdSnS<sub>4</sub>*, Inorg. Chem., 48, 7516, **2009**.
171. Grzechnik, A., Halasyamani, P.S., Chang, H.Y., and Friese, K., *Twinned crystal structure and compressibility of TlTeVO<sub>5</sub>*, J. Solid State Chem., 182, 1570, **2009**.
172. Chang, H.Y., Kim, S.-H., Ok, K.M., and Halasyamani, P.S., *Polar or Non-Polar? 'A' Cation Polarity Control in A<sub>2</sub>Ti(IO<sub>3</sub>)<sub>6</sub>, A = Li, Na, K, Rb, Cs, or Tl*, J. Am. Chem. Soc., 131, 6865, **2009**.
173. Chang, H.Y, Kim, S.H., Halasyamani, P.S., and Ok, K.M., *Alignment of Lone-Pairs in a New Polar Material: Li<sub>2</sub>Ti(IO<sub>3</sub>)<sub>6</sub> – Synthesis, Characterization, and Functional Properties*, J. Am. Chem. Soc., 131, 2426, **2009**.
174. Chang, H.Y., Kim, S.-H., Ok, K.M., and Halasyamani, P.S., *New Polar Oxides: Synthesis, Characterization, Calculations, and Structure-Property Relationships in RbSe<sub>2</sub>V<sub>3</sub>O<sub>12</sub> and TlSe<sub>2</sub>V<sub>3</sub>O<sub>12</sub>*, Chem. Mater., 21, 1654, **2009**.
175. Frau, A., Kim, J.H., and Halasyamani, P.S., *Na<sub>3</sub>Ga<sub>3</sub>Te<sub>2</sub>O<sub>12</sub>: Synthesis, Single Crystal Structure and Characterization*, Solid State Sci., 10, 1263, **2008**.
176. Chang, H.Y., Sivakumar, T., Ok, K.M., and Halasyamani, P.S., *Polar Hexagonal Tungsten Bronze-type Oxides: KNbW<sub>2</sub>O<sub>9</sub>, RbNbW<sub>2</sub>O<sub>9</sub>, and KTaW<sub>2</sub>O<sub>9</sub>*, Inorg. Chem. 47, 8511, **2008**.
177. Halasyamani, P.S. and Poeppelmeier, K.R., *Overview of the Forum on Functional Inorganic Materials*, Inorg. Chem., 47, 8427, **2008**.
178. Kim, Y., Seo, I.-s., Baek, J., Halasyamani, P. S., and Martin, S. W., *New Infrared Nonlinear Optical Crystal, LiGaGe<sub>2</sub>S<sub>6</sub>: Second-Harmonic Generation with High Laser Damage Threshold*, Chem. Mater., 20, 6048, **2008**.
179. Pan, S., Smit, J.P., Marvel, M. R., Stampler, E.S., Haag, J.M., Baek, J., Halasyamani, P.S., and Poeppelmeier, K.R., *Synthesis, crystal structure, and nonlinear optical properties of Bi<sub>2</sub>Cu<sub>5</sub>B<sub>4</sub>O<sub>14</sub>*, J. Solid State Chem., 181, 2081, **2008**.

180. Kim, J. H. and Halasyamani, P.S., *A Rare Multi-Coordinate Tellurite,  $NH_4Te_4O_9 \cdot 2H_2O$  ( $A = Rb$  or  $Cs$ ): The Occurrence of  $TeO_3$ ,  $TeO_4$ , and  $TeO_5$  Polyhedra in the Same Material*, J. Solid State Chem., 181, 2108, **2008**.
181. Baek, J., Sefat, A., Mandrus, D., and Halasyamani, P.S., *A New Magnetically Ordered Polymorph of  $CuMoO_4$ : Synthesis and Characterization of  $CuMoO_4$* , Chem. Mater., 20, 3785, **2008**.
182. Yeon, J., Halasyamani, P.S., and Kityk, I.V., *Second-order non-linear optical effects in nano-sized  $Sr_6Ti_2Nb_8O_{30}$  and  $Sr_6Ti_2Ta_8O_{30}$  ferroelectrics*, Mater. Lett., 1082, **2008**.
183. Kim, J.-H., Baek, J., and Halasyamani, P.S.,  *$(NH_4)_2Te_2WO_8$ : A New Polar Oxide with Second-Harmonic Generating, Ferroelectric and Pyroelectric Properties*, Chem. Mater., 19, 5637, **2007**.
184. Marvel, M. R., Lesage, J., Baek, J., Halasyamani, P. S., Stern, C. L., and Poepelmeier, K. R., *Cation-Anion Interactions and Polar Structures in the Solid State*, J. Am. Chem. Soc., 129, 13963, **2007**.
185. Sivakumar, T., Chang, H.Y., Baek, J., and Halasyamani, P.S., *Two New Non-Centrosymmetric Polar Oxides: Synthesis, Characterization, Second-Harmonic Generating, and Pyroelectric Measurements on  $TlSeVO_5$  and  $TlTeVO_5$* , Chem. Mater., 19, 4710, **2007**.
186. Chang, H. Y., Ok, K. M., Kim, J. H., Stoltzfus, M., Woodward, P., and Halasyamani, P.S., *Synthesis, Structure, Characterization, and Calculations of Two New  $Sn^{2+}$ - $W^{6+}$ -oxides,  $Sn_2WO_5$  and  $Sn_3WO_6$* , Inorg. Chem., 46, 7005, **2007**.
187. Sivakumar, T., Chang, H.Y., and Halasyamani, P.S., *Synthesis, structure, and characterization of a new two-dimensional lead(II) vanadate,  $Ba_3PbV_4O_{14}$* , Solid State Sci., 9, 370, **2007**.
188. Henderson, N. L., Baek, J., Halasyamani, P.S., and Schaak, R.E., *Ambient-Pressure Synthesis of SHG-Active  $Eu_2Ti_2O_7$  with a  $[110]$  Layered Perovskite Structure: Suppressing Pyrochlore Formation by Oxidation of Perovskite-Type  $EuTiO_3$* , Chem. Mater., 19, 1883, **2007**.
189. Sambrook, T., Smura, C. F., Clarke, S. J., Ok, K. M., and Halasyamani P.S. *Structure and physical properties of the oxysulfide  $CaZnOS$* , Inorg. Chem., 46, 2571, **2007**.
190. Ok, K.M., Baek, J., Halasyamani, P.S., and O'Hare, D., *New Layered Uranium Phosphate Fluorides: Syntheses, Structures, Characterizations, and Ion-Exchange Properties of  $A(UO_2)F(HPO_4) \cdot xH_2O$  ( $A = Cs^+$ ,  $Rb^+$ ,  $K^+$ ;  $x = 0 - 1$ )*, Inorg. Chem., 45, 10207, **2006**.
191. Veltman, T.R., Stover, A.K. Sarjeant, A.N., Ok, K.M., Halasyamani, P.S., and Norquist, A.J. *Directed Synthesis of Noncentrosymmetric Molybdates Using Composition Space Analysis*, Inorg. Chem., 45, 5529, **2006**.
192. Ok, K.M., Chi, E.O., and Halasyamani, P.S. *Bulk Characterization Methods for Noncentrosymmetric Materials: Second-Harmonic Generation, Piezoelectricity, Pyroelectricity, and Ferroelectricity*, Chem. Soc. Rev., 35, 710, **2006**.
193. Casanova, D., Llundell, M., Alemany, P., Alvarez, S., Ok, K.M., and Halasyamani, P.S. *Distortions in Octahedrally Coordinated  $d^0$  Transition Metal Oxides – A Continuous Symmetry Measures Approach*, Chem. Mater., 18, 3176, **2006**.

194. Ok, K.M. and Halasyamani, P.S. *Synthesis, structure, and characterization of a new one-dimensional tellurite phosphate, Ba<sub>2</sub>TeO(PO<sub>4</sub>)<sub>2</sub>*, J. Solid State Chem., 179, 1345, **2006**.
195. Sivakumar, T., Ok, K.M., and Halasyamani, P.S. *Synthesis, Structure, and Characterization of Novel Two- and Three-Dimensional Vanadates: Ba<sub>2.5</sub>(VO<sub>2</sub>)<sub>3</sub>(SeO<sub>3</sub>)<sub>4</sub> · H<sub>2</sub>O and La(VO<sub>2</sub>)<sub>3</sub>(TeO<sub>6</sub>) · 3H<sub>2</sub>O*, Inorg. Chem., 45, 3602, **2006**.
196. Chi, E., Ok, K.M., Porter, Y., and Halasyamani, P.S. *Na<sub>2</sub>Te<sub>3</sub>Mo<sub>3</sub>O<sub>16</sub>: A New Molybdenum Tellurite with Second-Harmonic Generating and Pyroelectric Properties*, Chem. Mater., 18, 2070, **2006**.
197. Ok, K.M. and Halasyamani, P.S., *New Metal Iodates: Syntheses, Structures, and Characterizations of Noncentrosymmetric La(IO<sub>3</sub>)<sub>3</sub> and NaYI<sub>4</sub>O<sub>12</sub> and Centrosymmetric β-Cs<sub>2</sub>I<sub>4</sub>O<sub>11</sub> and Rb<sub>2</sub>I<sub>6</sub>O<sub>15</sub>(OH)<sub>2</sub>·H<sub>2</sub>O*, Inorg. Chem., 44, 9353, **2005**.
198. Kim, Y., Martin, S.W., Ok, K.M., and Halasyamani, P.S., *Synthesis of the Thioborate Crystal Zn<sub>x</sub>Ba<sub>2</sub>B<sub>2</sub>S<sub>5+x</sub> (x ~ 0.2) for Second Order Nonlinear Applications*, Chem. Mater., 17, 2046, **2005**.
196. Muller, E.A., Cannon, R.J., Sarjeant, A.N., Ok, K.M., Halasyamani, P.S., and Norquist, A.J., *Directed Synthesis of Noncentrosymmetric Molybdates*, Cryst. Growth and Design, 5, 1913, **2005**.
197. Ok, K.M. and Halasyamani, P.S., *New Mixed-Metal Tellurites: Synthesis, Structure, and Characterization of Na<sub>1.4</sub>Nb<sub>3</sub>Te<sub>4.9</sub>O<sub>18</sub> and NaNb<sub>3</sub>Te<sub>4</sub>O<sub>16</sub>*, Inorg. Chem., 44, 3919, **2005**.
198. Ok, K.M. and Halasyamani, P.S., *New d<sup>0</sup> Transition Metal Iodates: Synthesis, Structure, and Characterization of BaTi(IO<sub>3</sub>)<sub>6</sub>, LaTiO(IO<sub>3</sub>)<sub>5</sub>, Ba<sub>2</sub>VO<sub>2</sub>(IO<sub>3</sub>)<sub>4</sub> · (IO<sub>3</sub>), K<sub>2</sub>MoO<sub>2</sub>(IO<sub>3</sub>)<sub>3</sub>, and BaMoO<sub>2</sub>(IO<sub>3</sub>)<sub>4</sub> · H<sub>2</sub>O*, Inorg. Chem., 44, 2263, **2005**.
199. Chi, E.O., Gandini, A., Ok, K.M., Zhang, L. and Halasyamani, P.S., *Syntheses, Structures, Second-Harmonic Generating, and Ferroelectric Properties of Tungsten Bronzes: A<sub>6</sub>M<sub>2</sub>M'<sub>8</sub>O<sub>30</sub> (A = Sr<sup>2+</sup>, Ba<sup>2+</sup>, or Pb<sup>2+</sup>; M = Ti<sup>4+</sup>, Zr<sup>4+</sup>, or Hf<sup>4+</sup>; M' = Nb<sup>5+</sup> or Ta<sup>5+</sup>)*, Chem. Mater., 16, 3616, **2004**.
200. Ok, K.M. and Halasyamani, P.S., *A Lone-Pair Cation, I<sup>5+</sup>, in a Hexagonal Tungsten Oxide-like Framework: Synthesis, Structure, and Second-Harmonic Generating Properties of Cs<sub>2</sub>I<sub>4</sub>O<sub>11</sub>*, Angew. Chemie., 43, 5489, **2004**.
201. Halasyamani, P. S., *Asymmetric Cation Coordination in Oxide Materials: The Influence of Lone-Pair Cations on the Intra-Octahedral Distortion in d<sup>0</sup> Transition Metals*, Chem. Mater., 16, 3586, **2004**.
202. Ok, K.M. and Halasyamani, P.S., *Asymmetric Cationic Coordination Environments in New Oxide Materials: Synthesis and Characterization of Pb<sub>4</sub>Te<sub>6</sub>M<sub>10</sub>O<sub>41</sub> (M = Nb<sup>5+</sup> or Ta<sup>5+</sup>)*, Inorg. Chem., 43, 4248, **2004**.
203. Yu, R., Ok, K. M., and Halasyamani, P.S., *Synthesis and Characterization of Two Novel Mixed Metal Tellurates: KGaTeO<sub>5</sub> · H<sub>2</sub>O and K<sub>3</sub>GaTe<sub>2</sub>O<sub>8</sub>(OH)<sub>2</sub> · H<sub>2</sub>O*, J. Chem. Soc., Dalton Trans., 392, **2004**.

204. Ok, K.M., Orzechowski, J., and Halasyamani, P.S., *Synthesis, Structure, and Characterization of Two New Layered Mixed-Metal Phosphates, BaTeMO<sub>4</sub>(PO<sub>4</sub>) (M = Nb<sup>5+</sup> or Ta<sup>5+</sup>)*, Inorg. Chem., 43, 964, **2004**.
205. Ok, K.M., Gittens, A., Zhang, L., and Halasyamani, P.S., *Synthesis, characterization, and dielectric properties of two new antimony oxides – LaSb<sub>3</sub>O<sub>9</sub> and LaSb<sub>5</sub>O<sub>12</sub>: Formation of LaSb<sub>5</sub>O<sub>12</sub> from the reaction of LaSb<sub>3</sub>O<sub>9</sub> with Sb<sub>2</sub>O<sub>3</sub>*, J. Mater. Chem., 14, 116, **2004**.
206. Hart, R.T., Ok, K.M., Halasyamani, P.S., and Zwanziger, J.W., *Powder Second-Harmonic Generation Study of (K<sub>2</sub>O)<sub>15</sub>(Nb<sub>2</sub>O<sub>5</sub>)<sub>15</sub>(TeO<sub>2</sub>)<sub>70</sub> Glass Ceramic*, Appl. Phys. Lett., 85, 938, **2004**.
207. Ok, K.M., Zhang, L., and Halasyamani, P.S., *Synthesis, Characterization and Dielectric Properties of New Uni-Dimensional Quaternary Tellurites: LaTeNbO<sub>6</sub>, La<sub>4</sub>Te<sub>6</sub>Ta<sub>2</sub>O<sub>23</sub>, and La<sub>4</sub>Te<sub>6</sub>Nb<sub>2</sub>O<sub>23</sub>*, J. Solid State Chem., 175, 264, **2003**.
208. Goodey, J., Ok, K.M., Hofmann, C., Broussard, J., Escobedo, F.V., and Halasyamani, P.S. *Syntheses, Structures, and Second-Harmonic Generating Properties in New Quaternary Tellurites: A<sub>2</sub>TeW<sub>3</sub>O<sub>12</sub> (A = K, Rb, or Cs)*, J. Solid State Chem., 175, 3, **2003**.
209. Porter, Y. and Halasyamani, P.S., *New Alkali-Metal – Selenium(IV) – Molybdenum(VI) – Oxides; Syntheses, Structures and Characterization of A<sub>2</sub>SeMoO<sub>6</sub> (A = Na<sup>+</sup>, K<sup>+</sup> or Rb<sup>+</sup>)*, J. Solid State Chem., 174, 441, **2003**.
210. Ra, H.-S., Ok, K.M. and Halasyamani, P.S., *Combining Second-Order Jahn-Teller Distorted Cations to Create Highly Efficient SHG Materials: Synthesis, Characterization and NLO Properties of BaTeM<sub>2</sub>O<sub>9</sub> (M = Mo<sup>6+</sup> or W<sup>6+</sup>)*, J. Am. Chem. Soc., 125, 7764, **2003**.
211. Porter, Y. and Halasyamani, P.S. *Synthesis, Structure, and Characterization of Two New Lead(II) – Tellurium(IV) – Oxyhalides: Pb<sub>3</sub>Te<sub>2</sub>O<sub>6</sub>X<sub>2</sub> and Pb<sub>3</sub>TeO<sub>4</sub>X<sub>2</sub> (X = Cl or Br)*, Inorg. Chem., 42, 205, **2003**.
212. Shehee, T.C., Sykora, R.E., Ok, K.M., Halasyamani, P.S., and Albrecht-Schmitt, T., *Hydrothermal Preparation, Structures, and NLO Properties of the Rare Earth Molybdenyl Iodates, REMoO<sub>2</sub>(IO<sub>3</sub>)<sub>4</sub>(OH) (RE = Nd, Sm, Eu)*, Inorg. Chem., 42, 457, **2003**.
213. Ok, K.M. and Halasyamani, P.S., *Anionic Templating: Synthesis, Structure, and Characterization of Novel Three-Dimensional Oxyhalides: Te<sub>4</sub>M<sub>3</sub>O<sub>15</sub> . Cl (M = Nb<sup>5+</sup> or Ta<sup>5+</sup>)*, Inorg. Chem., 41, 3805, **2002**.
214. Goodey, J., Broussard, J. and Halasyamani, P.S., *Synthesis, Structure and Characterization of a New Second-Harmonic-Generating Tellurite: Na<sub>2</sub>TeW<sub>2</sub>O<sub>9</sub>*, Chem. Mater., 14, 3174, **2002**.
215. Ok, K.M. and Halasyamani, P.S., *Synthesis, Structures, and Characterization of Centrosymmetric Al<sub>2</sub>(Se<sub>2</sub>O<sub>5</sub>)<sub>3</sub> and Ga<sub>2</sub>(Se<sub>2</sub>O<sub>5</sub>)<sub>3</sub> and Non-Centrosymmetric In<sub>2</sub>(Se<sub>2</sub>O<sub>5</sub>)<sub>3</sub>*, Chem. Mater., 14, 2360, **2002**.
216. Ok, K.M. and Halasyamani, P.S., *Synthesis and Characterization of a New Tellurate: NaBiTeO<sub>5</sub>*, Solid State Sciences, 4, 793, **2002**.
217. Porter, Y. and Halasyamani, P.S., *Synthesis and Characterization of Nadorite: PbSbO<sub>2</sub>Cl*, Z. Naturforsch. B, 57b, 360, **2002**.

218. Sykora, R.E., Ok, K.M., Halasyamani, P.S., Runde, W., and Albrecht-Schmitt, T.E., *Structural Modulation of Molybdenyl Iodate Architectures by Alkali Metal Cations in  $AMoO_3(IO_3)$  ( $A = K, Rb, Cs$ ): A Facile Route to New Polar Materials with Large SHG Responses*, J. Am. Chem. Soc., 124, 1951, **2002**.
219. Poduska, K.M., Cario, L.J., DiSalvo, F.J., Ok, K.M., and Halasyamani, P.S., *Structural studies of a cubic, high-temperature-polymorph of  $Pb_2GeS_4$  and the iso-structural  $Pb_{2-x}Sn_xGeS_{4-y}Se_y$  solid solution*, J. Alloys Comp., 335, 105, **2002**.
220. Poduska, K.M., DiSalvo, F.J., Ok, K.M., and Halasyamani, P.S., *Structure determination of  $La_3CuGeS_7$  and  $La_3CuGeSe_7$* , J. Alloys Comp., 335, L5, **2002**.
221. Sykora, R.E., Ok, K.M., Halasyamani, P.S., Wells, D.M., and Albrecht-Schmitt, T.E., *New One-Dimensional Vanadyl Iodates: Hydrothermal Preparation, Structures, and NLO Properties of  $A[VO_2(IO_3)_2]$  ( $A = K^+, Rb^+$ ) and  $A[(VO)_2(IO_3)_3O_2]$  ( $A = NH_4^+, Rb^+, Cs^+$ )*, Chem. Mater., 14, 2741, **2002**.
222. Maggard, P.A., Kopf, A.L., Stern, C.L., Poepelmeier, K.R., Ok, K.M., and Halasyamani, P.S., *From Linear Inorganic Chains to Helices: Chirality in the  $M(pyZ)(H_2O)_2MoO_2F_4$  ( $M = Zn, Cd$ ) Compounds*, Inorg. Chem., 41, 4852, **2002**.
223. Ok, K.M. and Halasyamani, P.S., *New Tellurites: Syntheses, Structures, and Characterization of  $K_2Te_4O_9 \cdot 3.2 H_2O$ ,  $KGaTe_6O_{14}$ , and  $KGaTe_2O_6 \cdot 1.8 H_2O$* , Chem. Mater., 13, 4278, **2001**.
224. Ok, K.M., Bhuvanesh, N.S.P., and Halasyamani, P.S.,  *$SbSb_xM_{1-x}O_4$  ( $M = Nb^V$  or  $Ta^V$ ): Solid Solution Behavior and Second-Harmonic Generating Properties*, J. Solid State Chem., 161, 57, **2001**.
225. Porter Y. and Halasyamani, P.S., *A Low Temperature Method for the Synthesis of New Mixed Metal Oxychlorides:  $Pb_3(SeO_3)(SeO_2OH)Cl_3$  and  $Pb_3(SeO_3)_2Cl_2$* , Inorg. Chem., 40, 2640, **2001**.
226. Porter, Y., Ok, K.M., Bhuvanesh, N.S.P., Halasyamani, P.S., *Synthesis and Characterization of  $Te_2SeO_7$  - A Powder SHG study of  $TeO_2$ ,  $Te_2SeO_7$ ,  $Te_2O_5$ , and  $TeSeO_4$* , Chem. Mater., 13, 1910, **2001**.
227. Ok, K.M., Bhuvanesh, N.S.P., and Halasyamani, P.S.  *$Bi_2TeO_5$ : Synthesis, Structure, and Powder SHG Properties*, Inorg. Chem., 40, 1978, **2001**.
228. Bhuvanesh, N.S.P. and Halasyamani, P.S., *Synthesis and Characterization of  $NaGaTe_2O_6 \cdot 2.4 H_2O$  - An Open-Framework Tellurite related to Zemannite*, Inorg. Chem., 40, 1404, **2001**.
229. Porter, Y., Bhuvanesh, N.S.P., and Halasyamani, P.S., *Synthesis and Characterization of Non-centrosymmetric  $TeSeO_4$* , Inorg. Chem., 40, 1172, **2001**.
230. Allen, S., Barlow, S., Halasyamani, P.S., Mosselmans, J.F.W., O'Hare, D., Walker, S.M., and Walton, R.I., *The hydrothermal synthesis of  $(C_6N_2H_{14})_2(U^{VI} U_2^{VI}O_4F_{12})$ , a mixed-valent one-dimensional uranium oxyfluoride*, Inorg. Chem., 39, 3791, **2000**.

231. Walker, S.M., Halasyamani, P.S., Allen, S., and O'Hare, D., *From Molecules to Frameworks: Variable Dimensionality in the  $UO_2(CH_3COO)_2 \cdot 2H_2O / HF_{(aq)} /$  Piperazine System – Syntheses, Structures, and Characterization of Zero-dimensional  $(C_4N_2H_{12})UO_2F_4 \cdot 3H_2O$  (UFO-8a and 8b), One-dimensional  $(C_4N_2H_{12})_2U_2F_{12} \cdot H_2O$  (UFO-9), Two-dimensional  $(C_4N_2H_{12})_2(U_2O_4F_5)_4 \cdot 11H_2O$  (UFO-10), and Three-dimensional  $(C_4N_2H_{12})U_2O_4F_6$  (MUF-1)*, J. Am. Chem. Soc., 121, 10513, **1999**.
232. Halasyamani, P.S., Walker, S.M., and O'Hare, D., *The First Open Framework Actinide Material  $(C_4N_2H_{12})U_2O_4F_6$  (MUF-1)*, J. Am. Chem. Soc., 121, 7415, **1999**.
233. Walton, R.I., Francis, R.J., Halasyamani, P.S., O'Hare, D., Smith, R.I., and Done, R., *A Novel Apparatus for the In-Situ Study of Hydrothermal Crystallizations using Time-Resolved Neutron Diffraction*, Rev. Sci. Instrum., 70, 3391, **1999**.
234. Francis, R.J., Halasyamani, P.S., Bee, J.S., and O'Hare, D., *Variable Dimensionality in the Uranium Fluoride / 2-Methyl-Piperazine System: Syntheses and Structures of UFO-5, 6, and 7; Zero, One-, and Two-Dimensional Materials with Unprecedented Topologies*, J. Am. Chem. Soc., 121, 1609, **1999**.
235. Francis, R.J., O'Brien, S., Fogg, A.M., Halasyamani, P.S., O'Hare, D., Loiseau, T., and Ferey, G., *Time-Resolved In-Situ Energy and Angular Dispersive X-ray Diffraction Studies of the Formation of the Microporous Gallophosphate ULM-5 under Hydrothermal Conditions*, J. Am. Chem. Soc., 121, 1002, **1999**.
236. Halasyamani, P.S., Francis, R.J., Walker, S.M. and O'Hare, D., *New Layered Uranium(VI) Molybdates: Syntheses and Structures of  $(NH_3(CH_2)_3NH_3)(H_3O)_2(UO_2)_3(MoO_4)_5$ ,  $C(NH_2)_3(UO_2)(OH)(MoO_4)$ ,  $(C_4H_{12}N_2)(UO_2)(MoO_4)_2$ , and  $(C_5H_{14}N_2)(UO_2)(MoO_4)_2 \cdot H_2O$* , Inorg. Chem., 38, 271, **1999**.
237. Francis, R.J., Halasyamani, P.S., and O'Hare, D., *Novel Uranium(IV) Fluorides: Synthesis, Structures and Physical Properties of  $(H_3N(CH_2)_3NH_3)U_2F_{10} \cdot 2H_2O$ ,  $(H_3N(CH_2)_4NH_3)U_2F_{10} \cdot 3H_2O$ ,  $(H_3N(CH_2)_6NH_3)U_2F_{10} \cdot 2H_2O$ , and  $[HN(CH_2CH_2NH_3)_3]U_5F_{24}$* , Chem. Mater., 10, 3131, **1998**.
238. Francis, R.J., Halasyamani, P.S., and O'Hare, D., *Organically Templated Uranium(IV) Fluorides: Syntheses, Structures, and Properties of  $(H_3N(CH_2)_3NH_3)U_2F_{10} \cdot 2H_2O$ ,  $(H_3N(CH_2)_4NH_3)U_2F_{10} \cdot 3H_2O$ ,  $(H_3N(CH_2)_6NH_3)U_2F_{10} \cdot 2H_2O$* , Angew. Chem. Int. Ed. Engl., 37, 2214, **1998**.
239. O'Hare, D., Evans, J.S.O., Francis, R.J., Halasyamani, P.S., Norby, P., and Hanson, J., *Time-resolved, in situ X-ray diffraction studies of the hydrothermal synthesis of microporous materials*, Micro. Meso. Mater., 21, 253, **1998**.
240. Halasyamani, P.S. and O'Hare, D., *Synthesis and Characterization of  $Se_4Nb_2O_{13}$ : A New Ternary  $Se^{4+} - Nb^{5+} -$  Oxide with Monoselenite and Diselenite Groups*, Chem. Mater., 10, 646, **1998**.
241. Francis, R.J., Drewitt, M.J., Halasyamani, P.S., Ranganthachar, C., O'Hare, D., Teat, S.J., and Clegg, W., *Organically Templated Layered U(VI) Phosphates: Hydrothermal Syntheses and Structures of  $[HN(CH_2CH_3)_3][(UO_2)_2(PO_4)(HPO_4)]$  and  $[N(CH_2CH_2CH_3)_4][(UO_2)_2(PO_4)(HPO_4)_2]$* , Chem. Commun., 2, 279, **1998**.

242. Halasyamani, P.S. and O'Hare, D., *A New Three-Dimensional Vanadium Selenite,  $(VO)_2(SeO_3)_3$ , with Isolated and Edge-Shared  $VO_6$  Octahedra*, Inorg. Chem., 36, 6409, **1997**.
243. Halasyamani, P.S., Drewitt, M.J., and O'Hare, D., *Hydro(solvo)thermal synthesis and structure of a three-dimensional Zinc fluorophosphate:  $Zn_2(4,4'$ -bipy)( $PO_3F$ ) $_2$* , Chem. Commun., 9, 867, **1997**.
244. Norquist, A.J., Heier, K.R., Halasyamani, P.S., Stern, C.L., and Poeppelmeier, K.R., *Polar Compounds Containing the Acentric  $[Cr_2O_7]^{2-}$  Anion*, Inorg. Chem., 40, 2014, **2001**.
245. Heier, K.R., Norquist, A.J., Halasyamani, P.S., Stern, C.L., and Poeppelmeier, K.R., *The Polar  $[WO_2F_4]^{2-}$  Anion in the Solid State*, Inorg. Chem., 34, 762, **1999**.
246. Halasyamani, P.S., and Poeppelmeier, K.R., *Non-centrosymmetric Oxides*, Chem. Mater., 10, 2753, **1998**.
247. Halasyamani, P.S., Heier, K.R., Norquist, A.J., Stern, C.L., and Poeppelmeier, K.R., *Composition Space of the  $(CdO, 1/2Nb_2O_5) / (HF)_x$  pyridine /  $H_2O$  System. Structure and Synthesis of  $CdNb(py)_4OF_5$* , Inorg. Chem., 37, 369, **1998**.
248. Halasyamani, P.S., Heier, K.R., Stern, C.L., and Poeppelmeier, K.R., *Syntheses and Structures of  $CuW(py)_2(H_2O)_2O_2F_4$  and  $CuW(py)_4O_2F_4$* , Acta Cryst., C53, 1240, **1997**.
249. Halasyamani, P.S., Willis, M.J., Heier, K.R., Stern, C.L. and Poeppelmeier, K.R., *Synthesis and Structure of  $[pyH^+]_2[CdNb_2(py)_4O_2F_{10}]^{2-}$* , Acta Cryst., C52, 2491, **1996**.
250. Halasyamani, P.S., Heier, K.R., Willis, M.J., Stern, C.L., and Poeppelmeier, K.R., *Synthesis and Structures of Two New Cu / Nb / Pyrazine Complexes: Three Dimensional  $CuNb(py)_2OF_5 \cdot (py)_2(H_2O)$  and Two Dimensional  $[Cu(py)_2.5]^+[NbF_6]^- \cdot py$* , Z. Anorg. Allg. Chemie, 622, 479, **1996**.
251. Halasyamani, P.S., Willis, M.J., Lundquist, P.M., Stern, C.L., Wong, G.K., and Poeppelmeier, K.R., *Composition Space of the  $(CuO, 1/2(Nb_2O_5) / (HF)_x \cdot$  pyridine /  $H_2O$ ) System. Structure and Synthesis of  $CuNb(py)_4OF_5$  and  $[pyH^+]_2[CuNb_2(py)_4O_2F_{10}]^{2-}$* , Inorg. Chem., 35, 1367, **1996**.
252. Halasyamani, P.S., Willis, M.J., Stern, C.L., and Poeppelmeier, K.R., *Crystal Growth in Aqueous Hydrofluoric Acid and  $(HF)_x \cdot$  pyridine Solutions: Synthesis and Crystal Structures of  $[Ni(H_2O)_6]^{2+} [MF_6]^{2-}$  ( $M = Ti, Zr, \text{ or } Hf$ ) and  $Ni_3(py)_3F_6 \cdot 7H_2O$* , Inorg. Chem. Acta, 240, 109, **1995**.



## **Invited Presentations:**

### **Universities**

#### *United States:*

Indiana University	Duquesne University	Clemson University
Auburn University	Georgia Inst. Tech.	University of South Carolina North
Carolina State Univ.	Ohio State University	Notre Dame University
University of Michigan	Michigan State Univ.	University of New Orleans
Northwestern University	Purdue University	Cornell University
Columbia University	UC – Santa Barbara	University of Minnesota
Haverford College	Oak Ridge National Lab.	University of Iowa
University of Oregon	California Inst. Tech.	New York University
University of Delaware	Baylor University	Colorado School of Mines
Colorado State Univ.	Johns Hopkins University	University of Florida
Florida State Univ.	SUNY - Stony Brook	Wayne State University

#### *International:*

University of Sofia	University of Barcelona	University of Nantes
University of Bordeaux	Augsburg University	Indian Institute of Science
University of Chile, Santiago	University of Edinburgh	University of St. Andrews
University of Tübingen	MPI – Stuttgart	University of Stuttgart
Ho Chi Minh University	Stockholm University	Peking University
USTC	Xinjiang Technical Institute of Physics and Chemistry	
Nanjing University	Fujian Institute of Research on the Structure of Matter	
Wuhan University	Shandong University	University of Buenos Aires
Aalto University	ETH Zurich	University of Berne
IST Austria	CSIR - Hyderabad	TFIR - Hyderabad
Tongji University	Fuzhou University	Fujian Normal University
Jiangnan University	Tianjin University	Nankai University
Univ. Science and Tech. Beijing	Technical Institute of Physics and Chemistry, Beijing	
Kyoto University		

## **Symposium Organizer:**

International Union of Crystallography (Florence, Italy, 2005)  
Southwest Regional ACS Meeting (Houston, 2006)  
National Materials Research Society Meeting (Boston, 2010)  
International Materials Research Congress (Cancun, 2012)  
International Materials Research Congress (Cancun, 2013)  
Solid State Gordon Conference - Vice-Chair (Colby-Sawyer, NH, 2018)  
Solid State Gordon Conference - Chair (Colby-Sawyer, NH, 2022)  
Sustainability through Science and Technology (Panama City, Panama, 2023)



*Graduate Students (Previous) – Current position:*

Kang Min Ok (Ph.D. Dec. '03 - *Professor Sogang University, Korea*)

Yetta Porter (Ph.D. Dec. '03 - *Research Scientist, Lawrence Berkeley National Laboratory*)

Hong-Young Chang (Ph.D. Aug., '09 - *Post-doctoral Assoc. UT-Austin*)

Jaewook Baek (M.S. Aug., '09 - *Chief Chemist ExperTox Inc., Houston, TX*)

Jeongho Yeon (Ph.D. Aug., '11 - *Research Scientist - Crystal Growth Group, Coherent Lasers*)

Sau Doan Nguyen (Ph.D. Dec., '12 - *Post-doctoral Assoc., Univ. Northern Colorado*)

HaNa Lee (M.S. May '13 - *LG Chemicals, Korea*)

Sun Woo Kim (Ph.D. August '14 - *Assistant Professor, Chosun University, Korea*)

Thanh Thao Tran (Ph.D. June '15 - *Assistant Professor, Clemson University*)

Meng Shang (Ph.D. June '20 - *Post-doctoral Assoc., Univ. Houston*)

*Undergraduate Students: 21 Total*

Lisa Ramadghie (6/00 – 8/00), Axel Mueller (1/01 – 4/01), Claudia Wagner (4/01 – 7/01), Cinttya Chavez (5/01 – 7/01), Francisco Escobedo (5/02 – 7/02), Jake Broussard (9/01 – 5/02), Alex Gittens (5/02 – 12/02), Hyun-Seup Ra (1/03 – 4/03), Jolea Bryant (5/03 – 7/03), Joseph Orzechowski (6/03 – 7/03), Maria Guardiola (5/04 – 7/04), Alexandra Fursina (2/05 – 8/05), Pascaline Lauriol (1/06 – 7/06), Angelica Torres (5/06 – 8/06), Mary Elhardt (5/06 – 8/06), Brian Berger (5/06 – 8/06), Casey Hood (1/08 – 1/09), Antonio Pontifes (5/09 – 12/09), Stephan Tam (5/10 – 12/11); Thong Tran (1/12 – 6/12); Valeria Stevens (1/20 – 8/20); Mikas Dunn (1/22 – present)